International Journal of Information, Business and Management

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WHICH IS THE BETTER PREDICTOR OF EMPLOYEE TURNOVER INTENTIONS: JOB SATISFACTION OR ORGANIZATIONAL COMMITMENT? A LITERATURE REVIEW.

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Abstract

Organizational commitment and job satisfaction are widely studies as predictors of employee turnover intentions. Many studies reported significant relationships among job satisfaction, organizational commitment, and turnover intentions. However, the relation between them is still controversial. In this context, this paper makes a humble attempt to clear the concept behind these relationships among these variable.

Introduction

The relationship among job satisfaction, organizational commitment and employee turnover intentions has been widely studied (Yang, 2009; Lane et al., 2010; Namasivayama and Zhaob, 2007).   Researcher all over the world has come up with different models to investigate the insight of association between organizational commitment and job satisfaction and to what extent these attitudes determine employee turnover intentions. However, the present available literature provides that organizational Commitment and Job Satisfaction is prominent predictor of employee turnover intention and absenteeism. For example, Kash et al., (2005), finds that commitment and job satisfaction predict employee turnover intentions they further proclaim that organizational work pressure, having work schedule that meet one's need, feeling physically safe at work, receiving feedback and organizational quality environment indirectly affects employee turnover intentions through employee satisfaction with their job and organizational commitment. Hao Chens et al., (2012), introduced macro level variable reflecting the external environment, that is, organizational, cultural and economic factors to explain to explain the individual level withdrawals attitudes in terms of turnover intentions. The findings reveal that the employees who are satisfy with their job and committed to their organization are less

likely to leave the organizations. However the relationship between job satisfaction and organization commitment is weaker in high collectivism cultures compare to low collectivism cultures. The study further explains that environmental are important moderates in influencing the relationship between organizational commitment, job satisfaction and employee turnover intentions. In addition, the results demonstrate that when economy is growing slowly, employees are more likely to seek better opportunities outside current when they are less committed. In the same year Sarminah and Salma (2012), demonstrate when employees perceive their organization as having greater concern over personal development, improvement and welfare by providing support, the emotion and attachment of employee to the organization will improve which in turn will reduce turnover intentions. They further suggest that positive emotions, feeling of attachment, engagement to the organization positive attitude towards the organization may be crafted if the employee perceived as being taken care of and are treated fairly by the management with regard to their intrinsic and extrinsic satisfaction. Replicated by Guy et al (2001), finds that company which sets up non monetary rewards system to recognize individual, encourage greater participation in decision making and promote flexibility in conduct of work has consequently committed and satisfied workforce which in turn undermine turnover intentions. It is also found that organizational commitment and job satisfaction indirectly affects operating performance through their influence on employee turnover intentions. In fact, employees value certain conditions of work, and if employee finds congruence of organizational and personal need, employees will be more satisfied and committed and less likely to leave the organisation (Martin and Roodt, 2008). Eric et al,.(2010), demonstrates that the most powerful predictor of employee turnover intentions are job attitudes such as job satisfaction, organizational commitment and job involvement while as work environment mediates the relationship between employee turnover intentions and job attitudes. Job satisfaction and organizational commitment have positive impact on operating performance while as turnover intentions have negative impact on operating performance Goa et al., (2012). Corroborated by Narimawati (2007) who finds that job satisfaction, organizational commitment and turnover intention simultaneously and partially have significant influence on performance. Atif et al., (2011), posits that employee retentions and job satisfaction can be enhanced if employee have strong organizational commitment while as compensation and organizational support plays an important role in enhancing organizational commitment. Numerous other studies have persistently demonstrated the impact of job satisfaction and organisational commitment on turnover intentions. These attitudes are viewed as essential antecedents of turnover because their empirical relationship with voluntary turnover has been established through numerous meta-analyses, in which it is illustrated that increasing job satisfaction and organizational commitment is good strategies for reducing turnover

intentions and absenteeism. (Al. Hussami 2010; Lee, Carswell & Allen, 2000; Wong et, al., 2001; Meyer, Stanley, Herscovitch & Topolnytsky, 2002; Steel & Ovalle, 1984; Tett & Meyer, 1993; and Yin & Yang, 2002.

Literature review

There is substantially evident that job satisfaction and organizational commitment are statistically allied with the employee turnover intentions. Other research has examined which attitude – job satisfaction or organizational commitment – is the stronger predictor of employee retention. Though it is been found that, Job satisfaction is positively related to organizational commitment both these attitude correlates is negatively to turnover intention but, the link between satisfaction, commitment and employee turnover intentions is not clear in a way whether job satisfaction precedes organizational commitment in the assessment of employee turnover intentions or reverse is the case. There are some studies in the literature supports the causal precedence of satisfaction over organizational commitment in determining the quit intentions while as Some researchers contend that global attitudes toward the organization should be more strongly associated with employee turnover intentions. For instance A. R. Elangovan (2001) while addressing the confusion prevailing over the relationship between job satisfaction, organizational commitment and turnover intentions and concludes that job satisfaction precedes organizational commitment as such lower job satisfaction leads to lower organizational commitment which in turn predicts employee turnover. Adam and Gert (2005) contrary to the their expectation organizational commitment yield low variance on employee turnover intentions while as job satisfaction precedes turnover intentions than organizational commitment. This indicates that withdrawal entails a rejection of the job rather than the organization. However authors suggested that turnover intentions can be actively manipulated of the contextual variables of job satisfaction and organizational commitment. Lisa et al.,(2000) finds that job satisfaction had stronger relationship with intention to leave than affective commitment. He continued to argue that job satisfaction being more immediate and personal than organizational commitment strongly predicts quit intentions among executive managers. Recently Sarminah and Salma(2012) concludes that job satisfaction factors components emerged as important factor influencing employee turnover intentions while as organizational commitment is able to mediate the job satisfaction and turnover intentions relationship.

In contrast to these findings some researchers contend that global attitudes toward the organization should be more strongly associated with organizational outcomes (e.g., turnover), and that more specific attitudes (e.g., job satisfaction) should be more closely linked to task-oriented outcomes.

Sara Howardd and Hamma (2011) argue that job satisfaction is not a sufficient predictor of employee turnover. Aoron and Ronit (2007) found that among the attitudes, job satisfaction is the strong predictor of absenteeism while as commitment forms, particularly organizational commitment are strongly related to employee turnover. Replicated by Simen and Baris (2011), finds though autonomy, development of competence and organizational support enhance job satisfaction but, employee associate their retention behaviour to the level of organizational commitment. A. R. Elangovan (2001) Further argues that satisfaction does not directly affects turnover but through organizational commitment. Taunton et al. (1997) reported that organizational commitment was a stronger predictor of turnover intensions than job satisfaction in their causal model. Appelbaum at. Et., (2009) demonstrated that employee's turnover rate is affected by organizational commitment which in turn can be enhanced through effective management and communication while the association of turnover rate and job satisfaction was not supported.

While as studies like Donglus (1999) conducted research on 482 teachers from Chicago Public Schools. The structure equation model with two wave panel data reveals no significant effect between job satisfaction and organizational commitment. The results suggest that the relationship between two employee orientations is spurious, the result of common cause as it was demonstrated that routinization, However Tibrat and Teerawat (2005) using SEM technique they finds although the job satisfaction and organizational commitment have no direct effect on turnover, these factors still show negative effect via work commitment to turnover intentions of IT employee working in Thailand peer support and work overload have significant effect on both organizational commitment and job satisfaction.

Few studies available in the literature have tried to answer the dichotomy of these relationship and any develop the rationalization about the relationship between job satisfaction, organizational commitment and employee turnover intentions. such as Lynn and Harry (1989), research on bank teller and hospital professionals, suggests that specific job attitudes are more closely associated with the task – related out comes such as performance rating, whereas global organizational attitudes are more closely associated with the organizational related attitudes like employee turnover. It is further argued that the degree of association between intentions to stay, job satisfaction and organizational commitment vary according to the degree of professionalism. As such professional primary commitment is towards their occupations rather than the organizations. As the consequent, it was found that organizational commitment was

strongly related than job satisfaction with turnover intentions for the bank teller but not for the hospital professionals. Goulders (1957) suggests a theoretical framework for understanding these differences. He argued that there exists two group of employee and named them as cosmopolitans "those who are low on loyalty to the organization, high on commitment to specialized role skills and likely to use an outer reference group" while as he viewed locals as "those who are high loyal to their employing organization and low to specialized role skills and likely to use inner reference group". More recently, Sara et, al., (2011), conducted a exploratory study on 287 nurses employed on public and private hospitals in Belgium, with the notion that impact of satisfaction and commitment on employee turnover may depend on the population understudy. They further argues, in order to fully capture the mechanism underlying the employee turnover, population should be divided into the meaningful cohorts to understand to understand the specific need of each group. Subsequent individual difference analysis using cluster regression revealed the existence of two sub-groups of nurses each a different turnover antecedent's pattern. Group one sample of 76, were job satisfaction turned to be a sole determinant of turnover intentions. This group was named as satisfaction focused group. While in group sample of 211, were both satisfaction and organizational commitment turnout to sole determinant of turnover intentions. This group was named as satisfaction and commitment focused group. This group were younger and less tenure employee and displayed higher turnover intentions as they were less satisfied and less committed to their organizations.

Conclusion

From the available literature it may be concluded that there is a diverse set of finding relating to the nature of relationship among job satisfaction, organizational commitment and turnover intentions. Though, majority of these findings conceived the positive relationship between job satisfaction and organizational commitment and these attitudes are negatively associated with the employee turnover intention, yet the phenomenon of relationship among these variable is not clear. This study also clears dichotomy of the relationship among job satisfaction, organizational commitment and employee turnover intention. After a systematic review it may be posit that the nature of relationship among the understudy variable depends upon that nature of job itself, rather than the personality of an employee. As such, professional associate their turnover intentions with their level of job satisfaction. This is because, for a

professional, quitting from an organization does not mean changing job but the organization. However, non professionals link intention to leave an organization, with their emotional attachment, involvement and identification toward an organization. This is mainly because non professionals are generalists rather than specialists, owing to which they have less inertia to a particular skill or job. Therefore in order to improve the retention of employee, organization needs to identify these differences. Nevertheless, it may be also acknowledged that, organizations cannot directly affect the attitudes and behaviour of the employee, the use of sound strategy and good match of employee-organization will ensure that people are committed and satisfied which in turn will enhance their retention attitudes.

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INFLUENCE OF COMPETITION ON ACTIVITY-BASED COSTING SYSTEM IMPLEMENTATION IN NIGERIA

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Abstract

Every manufacturing organization must strive to gain competitive edge over other organizations particularly those producing substitute products in order for them to remain relevant. Intensity of the competition in the market(s) of the firm is a factor which is important in costing system implementation because a higher level of competition increases the importance of accurate cost information. In highly competitive markets, competitors are likely to take advantage of any costing errors. Prior studies on the influence of competition on modern costing systems' implementation have reported conflicting results. Using a survey research design, this study examines the influence of competition on activity-based costing implementation in the Nigerian manufacturing sector. Data were obtained using structured questionnaire administered to 500 Accountants, Cost Accountants, Management Accountants and Financial Managers who are in full-time employment of 24 randomly selected manufacturing firms listed in the Nigerian Stock Exchange. The result of regression analysis revealed that there is a significant relationship between the extent of activity-based costing implementation and level of competitiveness in the Nigerian manufacturing sector. It is recommended that future studies should seek to investigate the influence of other contextual factors such as top management support and product diversity.

Key words: Competition, Accurate Product Costing, Activity-based Costing, Manufacturing.

1. Introduction

Competition is the rivalry among sellers trying to achieve such goals as increasing profits, market

share, and sales volume by varying the elements of the marketing mix: price, product, distribution,

and promotion (Koontz, 2001). Manufacturing organizations in Nigeria currently face stiff competition both at the local and the international markets. To remain relevant in the market, every manufacturing organization must strive to gain competitive edge over other organizations particularly those producing substitute products.

1.1 Statement of Problem

Intensity of the competition in the market(s) of the firm is a factor which is important in costing system implementation because a higher level of intensity of market competition increases the importance of accurate cost information, as in highly competitive markets competitors are likely to take advantage of any costing errors (Chongruksut & Brooks, 2005). Prior studies on the influence of competition on modern costing systems' implementation have reported mixed results. For instance, Drury and Tayles (2005), Brierly (2008), Pavlatos and Paggios (2009) reported that the intensity of competition that the organization face does not affect the costing systems. Meanwhile, Simons (1990) and Libby and Waterhouse (1996) reported that firms facing intensive competition tend to implement more sophisticated cost accounting systems.

Furthermore, the influence of competition on the implementation of activity-based costing has been studied by Bjornenak (1997) and Malmi (1999). The results Bjornenak (1997) are contrary to expectations. The implementers of activity-based costing are found to have a lower percentage of sales from exports (used as a proxy for competition) and a lower number of competitors than

non-implementers. The results of Malmi (1999) are consistent with expectations: both the percentage of turnover from export (as a proxy for competition) and the perceived change in competition are found to be significantly higher for the implementers of activity-based costing than non-implementers. In Nigeria, prior studies have reported that manufacturing organizations in Nigeria are facing stiff competition both at the local level and in the international market (Obamuyi, Edun & Kayode, 2012). Nevertheless, the influence of the intensity of competition on the implementation of activity-based costing in manufacturing in Nigeria is yet to be determined.

1.2 Research Objective

Sequel to the problem identified above, the main objective of this study is to investigate the influence of the level of competitiveness on ABC system implementation in Nigerian Manufacturing Sector.

1.3 Research Question

In order to achieve the objective of this study, the following research question has been posed.

What influence has the level of competitiveness on ABC system implementation in Nigerian Manufacturing Sector?

1.4 Research Hypothesis

The hypothesis which this study seeks to test is as follows:

Ho: There is no significant relationship between the extent of ABC implementation and level of competitiveness through market share in the Nigerian Manufacturing Sector.

2. Literature Review

Shields (1995) examined the relationships between diversity of behavioural, organizational and technical factors and the success of activity-based costing implementation. The result of the regression analysis of that study reported a positive and significant relationship between level of competition and activity-based costing system implementation. In other words, competition significantly influences the implementation of activity-based costing system. The higher the level of competition in the environment in which a company operates, the more likely it becomes for such a company to implement activity-based costing system so as to be able to gain competitive edge over other competing companies.

Nguyen and Brooks (1997) conducted a survey in the State of Victoria in Australia. Data were obtained using questionnaires sent to three hundred and fifty (350) Australian manufacturing companies. The results of the findings of their study show significant relationship between activity-based costing and level of competitiveness, indicating that high level of competition is more likely to influence organizations to implement activity-based costing system.

David and Li (2003) examined the role that could be played by activity-based costing under fierce

global competition. The researcher finds that the study indicated that serious competition is forcing those involved in the industry to pay attention to quality, cost and time required for marketing the product through shorter marketing cycle, and the reflection of that on the different stages of the product life cycle.

Liaqat (2006) carried out an empirical study to find out the application of contemporary management accounting techniques in Indian industry through a survey of 530 member companies of the National Association of Financial Directors and Cost Controllers. The sample was stratified in two segments; activity-based costing user firms and non activity-based costing user firms. The researcher found a positive significant association between the implementation of activity-based costing and level of competition.

Al-Omiri and Drury (2007) reported on the findings of a postal questionnaire that examines the extent to which potential contextual factors influence the characteristics of product costing systems. Results indicated that higher levels of cost system sophistication are positively associated with the importance of cost information, extent of use of other innovative management accounting techniques, intensity of the competitive environment, size, extent of the use of just in time/lean production techniques and the type of business sector. No association was found between the level of cost system sophistication and cost structure, product diversity and quality of information technology.

Ax, Greve and Nilsson (2008) investigated the impact of competition and uncertainty on costing system adoption in Sweden. The study was based on website survey of Stock-listed firms in Sweden. Secondary data were obtained and analyzed using descriptive statistics. The findings of the study revealed that the adoption of costing and the intensity of competition are positively related in Sweden. The study recommended that future study should be carried out in the context of a developing economy.

Brierley (2008) used logistic ordinal regression analysis to examine the impact of the level of competition, product customization, manufacturing overhead costs and operating unit size on the level of consideration for activity-based costing when measured on a three-point ordinal scale ranging from not considered, considering and considered activity-based costing. The results indicate that operating unit size is related positively to the level of consideration for activity-based costing. However, competition, product diversity and indirect cost as a proportion of product costs were found to have no significant relationship with activity-based costing implementation.

Fei and Isa (2010) investigated the main factors influencing the success of activity-based costing implementation in China. These factors include top management support, adequate resources, training, non-accounting ownership and competition. The paper replicated Shields's (1995) framework to examine the effect of behavioral and organizational variables on the activity-based costing success implementation by using a sample of 106 Chinese manufacturing firms. The result

showed that top management support significantly influenced the activity-based costing success implementation. However, no significant relationship was observed between activity-based costing implementation and each of competition, adequate resources and training. The findings of the study also provided implication for the implementation of activity-based costing for Chinese manufacturing firms.

Byrne (2011) examined activity-based costing success determinants in mature activity-based costing sites. The study surveyed 65 managers of service and manufacturing organizations using activity-based costing in Australia. The result of the regression analysis showed that competition intensity continues to be critical to activity-based costing success. In clear terms, it was reported in that study that competition has a significant relationship with activity-based costing system implementation in Australia.

Fadzil and Rababa (2012) carried out a survey on management accounting change; particularly activity-based costing adoption and implementation in Jordan. Quantitative and qualitative data were obtained for the study. The quantitative data were obtained through the administration of questionnaire and structured interview to management and accountants in 5 randomly selected companies. Data analysis was carried out using descriptive statistics and regression analysis.

The primary findings revealed that activity-based costing implementation in the context of Jordanian

Manufacturing Companies is approximately 19.5% measured according to the third criteria which is implementers or users. Findings from the semi-structured interviews reveal that factors including fashion, forced decision, fad and efficiency are directly related to activity-based costing implementation decision in the target companies. In addition, factors that both facilitate and motivate activity-based costing implementation are: top management support, non-accounting ownership, higher information technology, education, globalization of consumer, increased competition, growing costs, allocation problems, inability of the traditional cost systems to provide relevant information in the new environment and financial crisis. The findings from the interviews also revealed that the barriers to activity-based costing implementation are associated to behavioural and technical problems.

Salawu and Ayoola (2012) investigated activity-based costing adoption among manufacturing companies in Nigeria. The primary data were sourced through questionnaires administered to the Management Accountants of 40 selected manufacturing companies in South Western part of Nigeria. Descriptive statistics was employed to analyze the data. The study reveals that inability of the traditional cost systems to provide relevant cost was the most highly ranked reason in their decision to adopt activity-based costing. Traditional methods of allocating overhead were therefore believed to be deficient in terms of improving global competitiveness. Also, 60% of the respondents have adopted activity-based costing due to increased ranges of products, competition and increased overhead.

Ismail and Mahmoud (2012) examined the influence of organizational and environmental factors on cost systems design in Egypt. Data for the study were obtained through the administration of questionnaire to 96 randomly selected privately held Egyptian manufacturing firms operating in Cairo Zone. Factor and regression analysis were carried out. The results of the study revealed that level of competition strongly affect the implementation of complex costing system, with particular emphasis on activity-based costing system.

Yapa and Kongchan (2012) conducted a case study that described the implementation of activity-based costing in a Thai telecommunications company. Drawing on contingency theory the findings indicated several factors that underpinned the implementation of activity-based costing. A competitive environment was the most significant factor influencing the implementation of activity-based costing. According to Yapa and Kongchan (2012), by reason of the competitive environment in which companies operate, they were compel to implement costing system which provide them with accurate, efficient and effective costing information; which will enable them to compete favourable with their local and international competitors.

3. Methodology

The survey research design is employed in this study. The population comprises the 86 manufacturing companies that are quoted in the Nigerian Stock Exchange, meanwhile, the sample

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comprise of 24 randomly selected manufacturing companies. Primary data were obtained through the administration of structured questionnaire to 500 accountants, cost accountants, management accountants, senior accountants and financial managers on full-time employment in the Nigerian manufacturing sector. Data analysis is conducted using logistic regression analysis with the model below:

$$Y_1 = b_0 + b_1 X_1 + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(1)$$

3.1 Test of Hypothesis

Logistic regression analysis with 5% level of significance was employed in testing the hypothesis. The decision rule is to reject the null hypothesis if the p-value is less than the critical value of 0.05 and accept if otherwise.

4. Data Analysis and Discussions

The following section presents the data collected through the administration of questionnaire administered to the Accountants, Cost Accountants, Management Accountants, Senior Accountants and Financial Managers in the selected manufacturing firms.

Table I: Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	111.619	1	.000
	Block	111.619	1	.000

Table I: Omnibus Tests of Model Coefficients

	Chi-square	Df	Sig.
Step	111.619	1	.000
Block	111.619	1	.000
Model	111.619	1	.000

Source: Field Survey, 2013

Table I above reports the "Omnibus Tests of Model Coefficients." Omnibus means overall, and so this output is simply telling us whether the model with 1 predictor (competition) predicts the dependent variable better than chance alone. What the above table is telling us is that the model with 1 predictor does better than chance at predicting the dependent variable, and is statistically significant at $p < 0.001$.

Table II: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	353.125[a]	.240	.352

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Source: Field Survey, 2013

Table II above is the "model summary" which is a summary statistics for the model at "Step 1," which recall the model with 1 predictor. The first statistic is the -2 Log likelihood value, and is equal to 353.125.

Furthermore, table II above reports the Cox & Snell R Square value of .240. This statistic is referred

to as a "pseudo-R^2" statistic; in that it is designed to tell us something similar to what R-squared tells us in ordinary least squares regression, that of the proportion of variance accounted for in the dependent variable based on the predictive power of the independent variable (predictor) in the model. Overall, high values are better than low values here, with higher values suggesting that your model fits increasingly well.

Next is the "Nagelkerke R Square" statistic, it is a "pseudo" R-square value, purporting to tell us something along the lines of an OLS R-square, but not directly comparable to it.

Table III: Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	2.945	2	.229

Source: Field Survey, 2013

Table III above presents the Hosmer and Lemeshow Test, a measure of fit which evaluates the goodness of fit between predicted and observed probabilities in classifying on the DV. We see that the test is not statistically significant (p < .229), suggesting that the probabilities of predicted vs. observed do match up as nicely as we would like.

Table IV: Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Step 1[a] competition	1.213	.135	80.317	1	.000	3.364	2.580	4.387
Constant	-4.371	.596	53.731	1	.000	.013		

Table IV: Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Step 1[a] competition	1.213	.135	80.317	1	.000	3.364	2.580	4.387
Constant	-4.371	.596	53.731	1	.000	.013		

a. Variable(s) entered on step 1: competition.

Source: Field Survey, 2013

Table IV above presents the variables in the Equation. The table is a major part of the logistic regression output. First, we see that SPSS is reporting the Step number, which is "1," and noting that the variable in this step include competition. Let us look at the coefficient "B" under "competition." It is equal to 1.213. It means that given an increase of competition level by one unit, we can expect the log odds (or "logit") of implementing ABC system to increase by 1.213.

Next, we see "S.E." which stands for "standard error. Essentially, the standard error is a measure of how stable our estimate is. A large standard error means the estimated coefficient is not that well estimated, and a low standard error means we have a fairly precise estimate. For "level of competitiveness," the standard error is equal to .135. The Wald statistic, as noted earlier, is very much like a t-statistic conceptually, and is a test of the null hypothesis that the "B" population coefficient is equal to 0. Do we have good reason to reject the null hypothesis? Based on the p-value of .001, we have evidence to suggest that the "B" coefficient is not equal to 0 in the population from which these data were presumably drawn. That is, we have evidence to suggest that level of competitiveness, predicts the response variable better than chance alone.

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Next, we see "Exp(B)," and for level of competitiveness, the value is equal to 3.364. The number 3.364 has a very special meaning. It is called an "odds" and is interpreted as follows: an increase of 1 unit on level of competitiveness increases the odds of implementing ABC system by 3.364. The 95% confidence interval is also provided for the value of Exp(B).

From the analysis in tables above, particularly with the result of the Hosmer and Lemeshow test and other tests conducted above suggests that significant relationship exists between the extent of ABC implementation and level of competitiveness in the Nigerian Manufacturing Sector as the p value (0.001 is less than the beta value 0.05). Thus the null hypothesis that "there is no significant relationship between the extent of ABC implementation and level of competitiveness in the Nigerian Manufacturing Sector," is rejected. It can be concluded therefore that "there is a significant relationship between the extent of ABC implementation and level of competitiveness in the Nigerian Manufacturing Sector."

The result of the hypothesis tested reveals that activity-based costing implementation have been influenced significantly by level of competitiveness or simply competition, as the probability (or significance) of the hypothesis test calculated is equal to 0.001 which is less than 0.05 or 5%. Hence, there is a significant relationship existing between the extent of activity-based costing implementation and level of competitiveness in the Nigerian Manufacturing Sector. This result

agreed with Fadzi and Rababah (2012) result in their investigation on management accounting change; particularly activity-based costing adoption and implementation in Jordan. They reported a positive and significant relationship between activity-based costing implementation and level of competitiveness.

Similarly, the findings from this study consistent with the results reported by Nguyen and Brooks (1997), Ismail and Mahmoud (2012), Fadzil and Rababah (2012), Yapa and Kongchan (2012), and Salawu and Ayoola (2012) who in their individual studies reported a positive significant association between the implementation of activity-based costing and level of competition. However, the result of this study is inconsistent with that of Brierley (2008), and Fei and Isa (2010) as no significant relationship were observed between activity-based costing implementation and competition in each of the studies.

5. Conclusion

This study investigates the influence of competition on activity-based costing system implementation in the Nigerian manufacturing sector. From the literature review and data analysis, a positive relationship is observed between level of competition and activity-based costing system implementation. The result of this study reveals that most of the companies that have implemented activity-based costing system were influenced to do so in order to be able to compete favourably with other firms both at the local and international markets.

6. Recommendations

This study examines the influence of competition on activity-based costing system implementation in the Nigerian manufacturing sector. Competition is only one of the contextual factors influencing costing system implementation. Future studies should seek to investigate the influence of other contextual factors such as top management support and product diversity, amongst others.

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Employee Involvement and the Barriers to Organizational Change

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Abstract:

This paper aims to analyze the relationship between the role of employees' involvement and change success. A questionnaire was distributed to the participants in a Business College in the UAE. Logistic regression analysis was used to examine the contribution of several variables in the success of organizational change. Considering employees' needs, empowering employees, implementing the change strategies and helping employees witness change as it takes place were all found to be strongly related to the success of organizational change. This paper satisfies the need managers who have difficulties dealing with resistance to change.

Keywords:

Organizational Change; Resistance; Employee Involvement; Barriers to Change.

Introduction

Popular literature and best-sellers warn managers that their organizations' futures depend upon their ability to master change because it is a pervasive, persistent, and permanent condition for all organizations (Ivancevich *et al.,* 2008). The subject of organisational change has grown to a very rich field of theory and practice with no shortage of new ideas (Marsh, 2009). There has been a profusion of research on organizational change and yet, many organizations have struggled to achieve the changes that they have wanted to implement (Rosenberg and Mosca, 2011). In spite of all the academic and practical activities, the success of achieving major change in organisations had been reported as being poor with some researchers noting failure rates reaching as high as 70% (Beer and Nohria, 2000; Burnes, 2005; By, 2007; Carleton and Lineberry, 2004; Epstein, 2004; Windenberg, 2006; Maurer, 2010). Resistance to change has been considered by many authors the reason for the high failure rate of many change initiatives (Lawrence, 1954; Maurer, 1996; Strebel, 1994; Waddell and Sohal, 1998). Resistance has also been considered as a source of information, being useful in learning how to develop a more successful change process (Beer and Eisenstat, 1996; Goldstein, 1988; Lawrence, 1954; Piderit, 2000; Waddell and Sohal, 1998). Ford, Ford and d'Amelio (2008) and Ford and Ford (2009), argue from the earlier research, stating that resistance should instead be understood as an important source of employee feedback. They explain that in this way, resistance "can be an important resource in improving the quality and clarity of the objectives and strategies at the heart of a change proposal properly used, it can enhance the prospects for successful implementation." The under-conceptualization of resistance has "limited our ability to

develop theories of the workplace that include an active role for workers"(Hodson ,1995). Similar

claims can be made in a context of highly skilled professionals, where employees tend to demand a

high level of autonomy and influence in management decisions (Löwendahl, 1997; Maister, 1993;

Mintzberg, 1993; Raelin, 1985; Sharma, 1997).

Considering the importance of the role of employees in the change process, this paper aims to

analyze the relationship between the role of employees' involvement and organizational change

success. This manuscript starts by introducing the dimensions of resistance, the reasons for

resistance to change, and resistance management.   Then proceeds by describing the data collection

method adopted in this study and the methodology for data analysis. Then concludes with a detailed

discussion of the analyses and provides recommendations for implementing change more effectively.

Literature Review

According to Robbing and Judge (2008), one of the most well documented findings from studies of

individual and organisational behaviour is that organisations and their members do generally resist

change. As the saying goes, people are creature of habit, and change is frequently resisted by those at

who it is targeted (Johns and Saks, 2010).

Resistance appears to be one of the most important factors in organisational change (Stone. 2001;

Fandary, 2003; and Kotter, 2003). Nevertheless, managers of all levels tend to neglect this

significant factor quite often. Jones and Brazzel (2006) define resistance to change as "employee

behaviour that seeks to challenge, disrupt, or invert prevailing assumptions, discourses, and power relations" (Jones and Brazzel, 2006).

From this definition, resistance is a counterforce to the managers' inclination to introduce positive organisational changes that will lead to better performance and growth. Any innovation makes employees leave their comfort zone and acquire new skills, competences and habits, which require considerable efforts. As a result, the unwillingness to accept these changes generates resistance to change (Linstead et al., 2009; and Maurer, 1996).

Reasons for Resistance to Change

It can be argued that there is no agreed classification of reasons for resistance to change, several alternative classifications of these reasons are discussed, Saiyadain (2009) provides the following classification. First, resistance may be provoked by the loss of predictability. It is understandable that all organisational changes can imply certain risks.

If the degree of uncertainty is high, employees understand that the conditions cannot be controlled by the management. As a result, the future course of events is difficult to predict. With this low level of predictability, it is likely that the employees will become panic-stricken. In this emotional state, the reaction of the staff to organisational changes will be resistance (Saiyadain, 2009; and Armstrong, 2008).

Second, the loss of security can be presented as another important reason for resistance. Expected staff reduction can serve as an accelerator of resistance. Saiyadain (2009) emphasises the role of

technological innovations as a source of resistance. Quite often automation of labour makes numerous jobs redundant. In these conditions, the reaction of employees to changes is especially dramatic. Nevertheless, it is argued by Régnier (2000) that the era of technological innovations was marked by fewer strikes and other cases of extreme resistance than the previous ages. Hence, Régnier (2000) rejects the connection between technological innovations and loss of job security.

Third, the loss of convenience can lead to resistance. It is stated by Saiyadain (2009) that "old habits have to be replaced by new methods of work, revised schedules and in some cases different locations" (Saiyadain, 2009, p. 214). It may be understood that the new order of things is not accepted by the employees willingly as they need to transform themselves to serve the newly formulated organisational goals and objectives. The staff need time and assistance to adapt to the new labour conditions, at first, the new conditions will be treated as inconvenient.

The fourth reason for resistance singled out by Saiyadain (2009) is the loss of relationships. The planned changes may threaten the social position of an employee and social relationships gained by him or her. As a result, the whole organisational change can be accepted in a hostile and unfriendly way, since it influences the employee personally (Saiyadain, 2009; Bemmels and Reshef, 1991).

Johns and Saks (2011) state that resistance to change occurs when people either overtly or covertly fail to support the change effort. They listed the following reasons for resistance to change: self-interest, low individual tolerance for change, lack of trust, different assessments of the situation, strong emotions, and a resistant organizational culture.

Kolli (2000) singles out the following reasons for resistance to organisational change: fear of the unknown, dislike of surprises, opposition to imposed change, lack of conviction and fear of insecurity. As it may be grasped, these reasons have much in common with those previously presented. Nevertheless, their formulation and presentation form is different.

Robbins and Judge (2009) summarize major forces for resistance to change, categorized by individual and organizational sources. Individual sources of resistance reside in basic human characteristics such as perceptions, personalities, and needs. Organizational sources reside in the structural makeup of organizations themselves such as structural inertia, threat to expertise, and threat to established resource allocations.

The reasons for resistance singled out by Lauwers and Swisher (2005) are similar to the reasons advocated by Saiyadain (2009). However, Lauwers and Swisher (2005) add such reason as differences. It is argued by the researchers that it is natural for employees to stay the same during a prolonged period of time. Any sort of difference provoked by organisational change is likely to arouse resistance.

Lauwers and Swisher (2005) discuss the phenomenon of 'unjustified resistance', which occurs without objective reasons. In the most cases, this type of resistance happens when employees were misinformed or understood the surrounding reality wrongly (Lauwers and Swisher, 2005; and Grusky and Miller, 1970).

A review of the existing literature by Rosenberg and Mosca (2011) resulted in a list of twenty major reasons for the resistance to change. The twenty items listed in Table (Appendix 1) can be grouped

as follows: 1 through 8 are largely personal factors for resistance, 9 through 18 are largely organizational factors for resistance, and 19 and 20 are factors that are specific to the change itself (Rosenberg and Mosca, 2011).

It can be summarised that there is no agreed classification of reasons for resistance to change. All the reasons can be categorised into official and unofficial, which is actually differentiation between objective and subjective reasons. Nevertheless, change has been resisted for several reasons but most of the reasons are related to some extent to employees. Therefore, it is believed that employees play a crucial role in facilitating the change process and this is the core of the paper.

Resistance Management

There exist a number of approaches that help to manage resistance to change. It is necessary to critically discuss these approaches commenting on their advantages and disadvantages. McKenna (2000) advocates the approach which is referred to as education and communication. According to this approach it can be implemented when resistance to change is provoked by the lack of information and ineffective communication. One of the advantages of the approach is that it helps to motivate employees.

Griffin (2007) proposes such approaches as employee involvement and participation and facilitation. The first approach should be implemented when there is a serious risk of resistance since employee involvement is an effective management technique. One of the benefits of the approach is that the personnel may be easily integrated into the change process.

The second approach, facilitation, can be implemented when resistance is explained by the regulation problems. This approach is universally recognised to be the most suitable for the regulation or adjustment problems. At the same time, it is very expensive and time-consuming for organisations (Griffin, 2007).

Kerzner (2009) emphasises the use of the management approach, which is broadly referred to as negotiation and agreement. The approach can be implemented in the situations when some groups have considerable power to resist. In such cases it is better to arrive at certain agreements and compromise, than to split. One of the advantages of the current approach is that it is very effective in overcoming resistance. On the other hand, compromise with influential alliance can contradict the interests of an organisation.

Daft and Marcic (2008) describe such approaches as manipulation and co-operation and coercion. As argued by the scholars, the approach of manipulation and co-operation should be better used when all the other approaches fail to work. The discussed approach is the least costly in comparison with the others. At the same time, it can be critically remarked that the manipulation and co-operation approach may lead to greater resistance when the employees feel manipulated.

The coercion approach may be used when speed is important for managers. Any type of resistance to change can be overcome by this approach. At the same time, the discussed approach is associated with a number of risks (Daft and Marcic, 2008).

It can be summarised that there is a number of approaches that enable management of resistance to change within organisations but the effectiveness of each approach depends on the situation.

Methodology

This study took place at the college of business administration in Abu Dhabi University in the United Arab Emirates. All the participants were employed as having a minimum of two years of experience is a main requirement for admission at the post-graduate level program. A broad range of organizations were represented, both small and large organizations, in the private and the public sectors. This study used the same questionnaire designed by Rosenberg & Mosca in their study that took place at two universities in the US on breaking down the barriers to change. The majority of respondents were male and had a bachelor degree. The vast majority of respondents were in their twenties. This means that they were entry level employees, front line supervisors, or possibly middle managers. Higher level managers may have been part of the sample but certainly they only constitute a small portion.

A questionnaire was distributed to the participants in a class room and it was anonymous. There were 234 participants who responded to a series of ten questions that addressed their experience with organizational change in their organizations.

The ten questions were as follows:

- Have you ever been part of an organizational change?

- Was the change explained to you?

- Were your needs considered?

- Were all employees' needs considered?

- Did the employees accept the change?

- Did the change have a schedule?

- Did the employees witness the change as it took place?

- Were the employees empowered to help the change?

- Was the change implemented?

- Did the change fail?

The responses of each of the questions were tabulated, with any of the surveys with a "No" response

for question 1 removed from the tabulations for the remaining questions.

In this study, the analysis was conducted using descriptive statistics and logistic regression to study

the role of involving employees in achieving a successful change since employees can be a

significant source of resistance to change. The dependent variable was dichotomous either change

failed or otherwise. Six independent variables were included in the analysis. These variables are:

change explained to employees, employees' needs considered, employees acceptance of change,

Schedule of change, Employees witness change, Employees empowerment, and Implementation of

change.

The following section discusses the frequencies and percentages of participants responding the ten questions in addition to the results of the logistic regression analysis.

Findings

The results of the questionnaire are reflected in Table 2 Appendix 1. Note that 118 participants (i.e., 234 minus 116) were able to respond to questions 2 through 9, some of the participants elected to answer question 2 although they indicated that they were never part of an organizational change.

The fact that only 50.4 percent of the participants were part of an organization that underwent a change is surprising. This may mean that 50 percent of organizations may not find it a necessity to plan for change although change in today's environment is inevitable.

Answers to question 2 indicate that out of those who have been part of an organizational change, management communicated the change well to them. Communicating with employees prior and during change in terms of quantity and quality is very critical for change to succeed.

Considering the needs of employees when planning for change is an important issue. Only 50 percent of respondents' needs were considered and this may act as a potential barrier to change in the future.

The commitment of employees to change is an important factor that may affect the implementation of change. The responses to question 5 indicate that a good percentage of respondents accepted change and this would eventually facilitate change.

The responses for questions 6 and 7 indicate that the majority of participants said that the change had a schedule and that employees witnessed the change as it was taking place (78.9 percent and 87.7 percent on questions 6 and 7, respectively).

More than 75 percent of participants felt that employees were empowered to implement the change. This result is promising as empowering employees has often been resisted by management due to the belief that this could result in a loss of power from management perspective.

The responses for question 9 indicate that change was not just an exercise by management. The vast majority of participants stated that change was implemented.

For question 10, 75 percent of the participants indicated that the change that their organization took on actually succeeded. This is of course a high rate compared with what the literature says. The next sections will analyze the relationships between the success of organizational change and the other variables that may have contributed positively to implementing change successfully.

The result of the logistic regression analysis for the dependent variable in relation to the set of independent variables testing for goodness of fit was found to be highly significant at 99% confidence level. Additionally, the set of independent variables were found to explain 46% of the variation in the dependent variable which means that there are other variables that count for the success or failure of change. The remaining of this section examines the significance and direction of each of the independent variables based on the statistical results of the logistic regression analysis shown in Table 3 Appendix 1.

Considering the needs of employees was found to be highly significant and positively related to the success of change. This is in line with the literature as it is less likely for individuals to resist a change decision in which their needs were considered by management. Considering the needs of employees can reduce resistance, and obtain commitment. This makes them feel that they are on board with organizational change. Communication and participation are two of seven popular tactics used to overcome resistance to change. In order to consider employees' needs this will require communicating with employees and also allow them to participate in the change itself. Communication can be very beneficial as it fights the effects of misinformation and any misunderstanding can be cleared up, and therefore resistance should subside. Research shows that the way the need for change is sold makes a difference and communication can be very useful in selling the need for change (Robbins and Judge, 2008).

Involving employees in the change process will have an effect on another variable which is change implementation where employees will realize the impact each one of them has on implementing the change and in return this can make change a personal responsibility.

The results show that change has a higher chance of success when employees witness the change as it takes place as the relationship was found to be positive and highly significant. One of the problems with change is that it takes a long time to see the positive effect of change and this could be a barrier to change. The results prove that when employees see the effect of change as it takes place this may increase their commitment to change especially if they perceive change in a positive way.

Empowerment was found to be positively related to the success of organizational change where the relationship was highly significant. Empowerment refers to the delegation of power or authority to subordinates in the organization (Daft and Marcic, 2008).

Discouraged by the challenges inherent in making organizational changes, many business leaders seek to overcome these obstacles by establishing a change management program. To ensure timely and effective results, such a program needs to involve not only the organization's leaders as sponsors of change and the project team members as change agents, but also the employees who will be affected by the alterations to the work environment. It was found that empowering those individuals as partners in the change process does far more than increase the probability of a successful change. It also teaches the employees a new way of dealing with it (Rothermel and LaMarsh, 2012).

The last independent variable that was found to be significantly related to the success of change was the change implementation. Having strong plans and change strategies without implementing them is useless because proper implementation is as important as developing change strategies. It was expected to find a strong relationship between implementing change and the success of change where there would be no success or even failure without implementing the change. Any change is little more than an abstraction if it is not implemented, and it must be implemented effectively in order to achieve the objective for which is made. It is entirely possible for a good change strategy to be hurt by poor implementation (Ivancevich *et al.,* 2008).

Conclusion

As explained earlier, resistance to change is one of the key factors to be considered in any change process, so managers should place more attentions to this factor when managing resistance to change. Literature offers many studies with sources of resistance to change and the way change can be managed. This paper focused on employees as a potential source to resistance to change and their role in reducing resistance if managed effectively. In the empirical research, our assumption about involving employees in the change process can reduce resistance to change has been supported by our investigation of participants who underwent a change process. According to the results of this paper, managers need to pay attention to employees' needs when undergoing a change process. When it comes to implementing the change, managers should help employees witness the change as it takes place and emphasize positive aspects of change so they can increase the commitment of employees to implementing the change. For the change process to be successful, employees should be empowered to varying degrees as this can meet some of their motivational needs and also make them feel that their role in the change process is crucial.

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Appendix 1

Table 1: Reasons for Resistance to Organizational Change

- Employee's attitude/disposition toward change

- Fear of the unknown (uncertainty)

- Lack of understanding of the firm's intentions

- Fear of failure

- Disruption of routine

- Increased workload

- Lack of rewards for implanting change

- Perceived loss of control, security, or status

- Poor leadership

- Dysfunctional organizational culture

- Organizational size and rigidity

- Lack of management support for the change

- Lack of trust between management and employees

- Inability or unwillingness of management to deal with resistance

- Lack of participation due to to-down steering

- Organizational politics/conflict

- Internal conflict for resources

- Lack of consequences for inadequate or poor performance

- The content of the change (an ill-conceived change/relevance of the goals of

	change)
•	Poor implementation planning

Source: Rosenberg S. and Mosca J. (2011) Breaking Down The Barriers To Organizational Change.

Table 2: Frequencies and Percentages of Participants Responding to Survey Questions

Question	Yes	Percent	No	Percent	Total
• Have you ever been part of an organizational	11	50.4	11	49.6	234
change?	8	88.1	6	11.9	120
• Was the change explained to you?	10	75.4	14	24.6	114
• Were your needs considered?	4	50.9	28	49.1	114
• Were all employees' needs considered?	86	68.4	56	31.6	114
• Did the employees accept the change?	58	78.9	36	21.1	114
• Did the change have a schedule?	78	87.7	24	12.3	114
• Did the employees witness the change as it took	90	75.4	14	24.6	114
place?	10	98.2	28	1.8	114
• Were the employees empowered to help the	0	24.6	2	75.4	114
change?	86		86		
• Was the change implemented?	11				
• Did the change fail?	2				

	28					

Table 3: Logistic Regression Analysis Results		
Parameters	B	Probability
Independent Variables		
Change explained to employees	.415	0.64
Employees' needs considered	2.78	0.002
Employees acceptance of change	- .076	0.910
Schedule of change	-1.221	0.113
Employees witness change	2.632	0.009
Employees empowerment	3.399	0.000
Implementation of change	21.668	0.000
Model Test Results		
Goodness of fit (-2 Log Likelihood)	46.171	
Model Chi-square [df]	42.055	
R-Squares		

Adjusted R-square (%)	46

Advertising Spending and Brand Loyalty: A Case from Pakistani Market

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Key Words: Advertising Spending, Perceived Quality, Store Image, Satisfaction, Brand Loyalty, Banking, Telecom, Pakistan.

Abstract:

In this era of cut throat competition between companies to stay on top it is vital for companies to construct brand loyalty, get to brand loyal customers and provide maximum satisfaction to those loyal customers. They are of the opinion that any brand can build its loyalty among its customers if it promises to constantly deliver and maintain itself. This study aims to investigate whether spending on advertising influences brand loyalty or not in Pakistan. For this purpose, a questionnaire survey was carried out. Data was collected from students, employees at public and private sector organizations and visitors at outlets of specific Banks and Cellular Service Providers. The number of responses received in total was 444. In order to analyze the data, Structured Equation Modelling was used. Results showed that advertising spending did not directly affect brand loyalty. However, results showed that store image was directly influenced by advertising spending. A direct positive impact of store image on the brand loyalty could not be established. This study demonstrated that store image and satisfaction play a mediating role when the effects of advertising spending on brand loyalty are being investigated.

1 Introduction

Brand loyalty is considered to be of vital importance for companies operating in today's competitive environment. Brand loyalty influences customer purchase behaviour (Palumbo and Herbig, 2000),

customer satisfaction (Oh and Fiorito, 2002) and market share (Ha, 1998: Jensen and Hansen, 2006). A number of studies measuring the impact of brand awareness on brand loyalty support the idea that spending on advertising to create brand awareness enhances brand loyalty (Nguyen, Barrett and Miller, 2011, Clark, Doraszelski, and Draganska, 2009). Aduloju, Odugbesan and Oke (2009) are of the opinion this advertising spending should be fully integrated into the communication mix of marketing so as to get the best results from it. A good strategy for advertising is supposed to determine the most favorable media mix and identify the most suitable vehicles needed to efficiently communicate the message. This should be within a budget that is good enough to do the job (Rotfeld, 2007). Tai (2007) is of the view point that companies having low market share should increase their advertising budget in order to aid their marketing communication efforts. These efforts will ultimately help in expanding the market share.

2 Literature Review

Previously, researchers have tried to work on the relationship of different constructs on brand loyalty. Advertising Spending → Brand Loyalty (Johnson, 1984), Store Image → Perceived Quality → Satisfaction → Brand Loyalty (Bloemer, Ruyter, and Peeters, 1998), Advertising Spending → Perceived Quality (Moorthy and Zhoa, 2000) Perceived Quality → Brand Loyalty, Satisfaction → Brand Loyalty (Tepeci, 1999) and Perceived Quality → Satisfaction → Brand Loyalty (Olsen, 2002) are some of the notable studies on this subject. The proposed research model empirically studied by Ha, *et al.* (2011) is the model under study in this research. The basic structural relationships of this model are:

- Brand loyalty is directly affected by advertising spending.
- Brand loyalty is indirectly affected by advertising spending with a mediating role played by store image, satisfaction and perceived quality.

Advertising Spending

Advertising budgeting and allocation by companies is done via benchmarking themselves against the rivals. According to Bradbury and Kissel (2006) it is indeed an insightful strategy, if their marketing objectives and strategies to reach those objectives are similar to those of the competitors. Baidya and Basu (2011) concluded that expected output by individual marketing effort should be calculated and budget allocation should be done accordingly. They (Baidya and Basu, 2011) further stated that in dynamic market conditions, to individual marketing efforts, budget may be allocated more precisely by the managers. Moorthy and Zhoa (2000) studied the relationship between perceived quality and advertising spending in their research. They concluded that even after accounting for market share, objective quality and price, the perceived quality is positively associated with advertising spending. Ha, *et al.* (2011) are of the view that advertising spending helps build knowledge base regarding a particular brand which ultimately leads to brand loyalty. Baidya and Basu (2011) are of the view that highest increase in sales is observed after a percentage increase in budget on advertising among all the other efforts.

There are also some discouraging views regarding advertising spending. Rotfled (2007) reports that there are some contemporary studies regarding advertising effectiveness which state a notable portion of advertising spending might be wasted. This amount is reported to be as much as two third of the total spending. Heimonen and Uusitalo (2009)'s conclusion regarding advertising spending is also showing another side of the picture. Their work concludes that symmetry cannot be found among the impacts of advertising on different brands. They (Heimonen and Uusitalo, 2009) also narrate that in some cases the advertising spending is reported to have decreased the market share of its own brand. But a good advertising job should help decrease the need for advertising spending over time as less advertising efforts should be needed to keep the impact on the customers and prospects (Rotfled, 2007).

Brand Loyalty

Oliver (1999) defines brand loyalty as intensely detained dedication to repurchase a particular product/service over time. This repeat purchase is not sway by any influential factor. A research (Jensen and Hansen, 2006) concludes that loyal customers do not get affected by the intrigues of competitors. They are more likely to spread positive word of mouth regarding a brand to their friends and family. These are the customers who go to the store to repurchase the brand when needed.   Ha (1998) is of the view that in order to know that whether or not we are dealing with a loyal customer, the attitude causing the purchase decision must be analysed.

Advertisers' working in multicultural environments have got hold of brand loyalty by modifying the image of a brand to fit the individual cultures (Palumbo and Herbig, 2000). Contrary to this, Oh and Fiorito (2002) are of the view that brand loyalty is not related to the demographic factors. The repeat purchase behavior of the customers can be improved by increasing customer's relative attitude towards a particular brand. Attitude building marketing strategies can help marketers in this regards (Jensen and Hansen, 2006).

Brand loyalty is affected by a number of factors. Brand credibility, trustworthiness (Alam, Arshad and Shabir, 2012), perceived quality (Ha, Janda and Park, 2009; Nguyen, Barrett and Miller, 2011; Alam, Arshad and Shabir, 2012), satisfaction (Ha, Janda and Park, 2009) and disposable income (Palumbo and Herbig, 2000) are some of the factors affecting brand loyalty, as reported by the literature.   Ha (1998) is of the view that in order to get more precise and accurate estimate of brand loyalty, subjective norm should be included in its measure. Hur, Ahn and Kim (2012) state that in order to enhance the brand loyalty of customers, they should be provided with room to participate in the processes. To grow long term over the medium, brand loyalty is the most essential for a business (Jensen and Hansen, 2006). Oh and Fiorito (2002) narrate that confident shopping, economic shopping and time conscious shopping are the factors that constitute shopping orientation that help differentiate between loyal and non-loyal customers of a brand.

Store Image

According to Martineau (1958) store image is "the way in which the store is defined in the shopper's mind". Chang and Luan (2010) argue that store image is the perception of a customer regarding a store on numerous characteristics based on previous experience. In this study, however, store image has been defined as the overall perceptions of a customer based on current as well as prior exposure to stimuli. This definition has been founded on Stern *et al.*'s (1977) theorization. Scholars argue that in order to attract customers, it is essential to obtain a favorable impression of a store (Stern *et al.,* 1977; Bloemer and Ruyter, 1998; Bloemer *et al.,* 1998). Furthermore, Bloemer and Ruyter (1998) discovered that significant relationships existed between satisfaction, loyalty and store image. Miller and Berry (1998) suggest that perceived quality and spending on advertising may be significantly related to a favorable store image.

Theodoridis and Chatzipanagiotou (2009) came up with six factors that constitute the store image attributes. These factors are products, atmosphere, personnel, merchandising, pricing and in-store convenience. Riel, *et al.* (2012) narrates that store image has a strong impact on satisfaction. Binninger (2008) also concludes that store image helps improve customer satisfaction which ultimately helps build brand loyalty. Chang and Luan (2010)'s suggestion to the managers is that if they wish to build a better store image, they should work on staff training and improve the merchandise quality. Retail brands can help build store image which will ultimately result in increased inflow of customers hence more sales and profits (Binninger, 2008). Researchers have investigated the construct of store image for over thirty years (Wheatley and Chiu, 1977; Bloemer and Ruyter, 1998). Bloemer *et al.* (1998) argue that the image of the store is developed based on the subjective perceptions that have been formed over a period of time. Furthermore, they assert that the store image seemingly involves the beliefs and perceptions of customers about a certain store.

Perceived Quality

Zeithmal (1988) defined perceived quality as customer's opinion based on subjective perception about the quality and supremacy of a product. Parasuraman, *et al*. (1985) on the other hand stated perceived quality as an attitude of a customer, based on the comparative results of consumer expectation and actual performance of a product. This perception is the pre-encounter expectation of quality (Hamer, 2006). Bahia and Nantel (2000) acknowledge that all type of organizations look-up for quality, irrespective of their nature of business.

Bitner (1990) suggested that satisfaction with a brand is the antecedent of perceived quality, however,

a more recent research (Lee, Lee and Yoo, 2000) provides empirical support for the impression that perceived quality leads to satisfaction. Ladhari and Morales (2008) state that the relationship between perceived quality, perceived value and behavioral intention has been examined by very few studies; nevertheless, brand loyalty is connected to the outcomes of these relationships. Companies should focus strongly on the perceived quality attributes which are of higher value to the customers (Snoj, Korda and Mumel, 2004). A research (Cristobal, Flavian and Guinaliu, 2007) using structural modeling concludes that the direct effects of perceived quality on satisfaction were significant; however, they were insignificant on brand loyalty. The same research (Cristobal, Flavian and Guinaliu, 2007) also concludes that satisfaction had significant and positive effect on brand loyalty. This implies that satisfaction plays mediating role between perceived quality and brand loyalty. On the other hand, research by Lee, Lee and Yoo (2000) figured out that price, availability and convenience are the factors which may affect the satisfaction but they do not significantly affect perceived quality. Erdogmus and Turan (2012) conclude that perceived quality is one of the best predictors of brand loyalty. Brand promises are important for brand building; however, promising more than what a brand actually delivers can diminish the perceived quality (Hamer, 2006).

Satisfaction

Customer satisfaction is a matter of great concern for marketing managers, predominantly for those working in services industries (Bennett and Thiele, 2004). It is reliant upon the management processes and delivery of end product or service to the customers (Campbell and Finch, 2004). However, another view is that customer satisfaction is no longer a matter of concern for most people so it is gradually declining in the developed world (Williams and Visser, 2002). O'Sullivan and McCallig (2012) state that relationship between earnings and firm value is positively moderated by satisfaction and earnings-based valuation model is key resource for establishing such an impact. Williams and Visser (2002) narrate that as customer satisfaction is becoming relatively unimportant for key stakeholders (top and bottom management, investors, marketers and customers), it is declining; however, middle management is the only stakeholder which is not letting its soul pass away.

It is evident from most of the customer satisfaction surveys that customer satisfaction is the end goal for the company and is often used as surrogate for brand loyalty (Bennett and Thiele, 2004). Campbell and Finch (2004) narrate that is not always possible for a company to meet their targets. Effective use of Procedural Justice Techniques can be helpful in achieving satisfaction in such cases. For customers, pricing and products are the major factors affecting their satisfaction level (Theodoridis and Chatzipanagiotou, 2009). Satisfaction is often helpful for customers to lessen their expectations. If a customer responds that he is satisfied with what was offered as he does not expect much from the company, he is not a loyal customer. This is a clear sign of low satisfaction. However,

as soon as the company makes the choice available for him, he goes for it (Adamson, 1994). Vilares and Coelho (2003) concluded that customer satisfaction is not directly influenced by perceived quality, although perceived quality has contributed a lot to the explanation of perceived value. In some cases satisfaction also may not result in brand loyalty (Bennett and Thiele, 2004).

Hypothesis

Following hypothesis have been developed on the basis of literature reviewed above:

H1. Advertising spending has a direct positive impact on brand loyalty.

H2. Advertising spending has a direct positive impact on store image.

H3. Advertising spending has a direct positive impact on perceived quality.

H4. Store image has a direct positive impact on brand loyalty.

H5. Store image has a direct positive impact on perceived quality.

H6. Store image has direct positive impact on satisfaction.

H7. Perceived quality has a direct positive impact on brand loyalty.

H8. Satisfaction has a direct positive impact on brand loyalty.

Figure 1: Theoretical Model
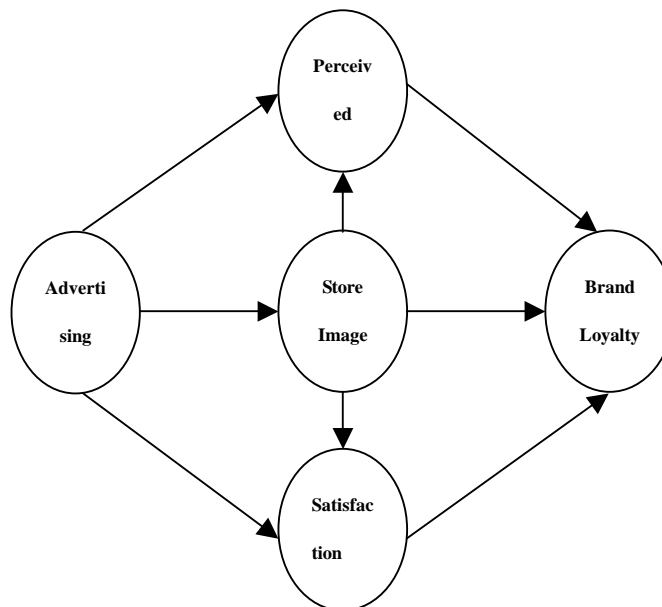
3 Research Methodology

The target population for the study is Pakistani citizens who are using either of the specified banking or cellular[NR1] services for at least a year. In order to study the impacts of advertising spending on brand loyalty the population was divided on different demographic factors such as age, gender and domicile. Previous researches on advertising spending and brand loyalty report use of self-administered questionnaire for collecting the primary data (e.g. Jensen and Hansen, 2006; Tai,

2007; Aduloju, Odugbesan and Oke, 2009). Banking and Telecom sectors have been chosen for investigation in this study because in these sectors customers have direct interaction with service provider. A pilot study was conducted in Islamabad (the federal capital) to identify four service providers from each sector (banking and telecom sector) whose advertising campaigns were significant. The selected service providers were then mentioned in the questionnaire to study the effects of advertising spending on brand loyalty. In this study the five given constructs have been measured by thirteen questions using a five-point likert scale adapted from the study conducted by Ha, *et al.* (2011). The adapted questionnaire (Annexure 7.1) has sufficient reliability estimates and was translated into Urdu language in order to improve the understanding of the respondents. The translation was duly vet by language experts of both Urdu and English as well as a copy writer at a renowned advertising agency.

The following items were used to measure the given constructs have been shown in Table 1.

Table 1: Variable and Measurement Items

Variable	Measurement Items	Source
Advertising Spending	The ad campaigns for "X" are frequent.	Ha *et al.*, 2011
	The ad campaigns for "X" seem very expensive compared to campaigns for competing brands.	Ha *et al.*, 2011
Perceived Quality	The brand is of high quality.	Ha *et al.*, 2011
	The likelihood that "X" is reliable is very high.	Ha *et al.*, 2011
	The likely quality of "X" is extremely high.	Ha *et al.*, 2011
Store Image	I have a favorable attitude to this brand.	Ha *et al.*, 2011
	I trust the brand's image.	Ha *et al.*, 2011
	The brand has an overall goodwill with me.	Ha *et al.*, 2011
Satisfaction	Overall, I am satisfied with specific experiences with the brand.	Ha *et al.*, 2011
	I am satisfied with my decision to purchase from this brand.	Ha *et al.*, 2011
Brand Loyalty	I say positive things about this brand to other people.	Ha *et al.*, 2011
	I would continue to do business with this brand retailer even if it its prices increase somewhat.	Ha *et al.*, 2011
	I will not buy at other brands if "X" is available.	Ha *et al.*, 2011

The research sample consists of students (Colleges and Universities), employees at public and private sector organizations and visitors at outlets of specified Banks and Cellular Service Providers. The sampling method followed to gather the data was *convenience sampling*. In total 800 self-administered questionnaires were floated to the target population from which 490 questionnaires were received back (response rate = 61.25%). From the received 490 questionnaires 444 (banking sector = 212 & telecom sector = 232) were usable as the questionnaires with more than 25% blank responses were not included (Sekaran, 2003).

This was a cross sectional study as the data was collected only once from the sample over a specific point of time and was descriptive in nature. This study was carried out in non-contrived environment and within the normal flow of work. There was minimal researcher interference during the research. The demographic profiles of the respondents, assessment of reliability of measures (Jensen and Hansen, 2006; Poolthong and Mandhachitara, 2009; Ha, Janda and Park, 2009; Nguyen, Barrett and Miller, 2011) and correlation analyses (Tai, 2007) has been done using Statistical Package for Social Sciences (SPSS). In order to test the hypothesis, Structural Equational Modeling (SEM), a multivariate examination method was performed (Jensen and Hansen, 2006; Nguyen, Barrett and Miller, 2011) using LISREL version 8.80

Table 2 shows the demographics for the subjects of this study. The presented data suggests that the maximum number of respondents belong to age bracket 21-30 i.e 43.4% (for banking sector) and 51.7% (for telecom sector).

Table 2: Demographic Data

		Banking Sector		Telecom Sector	
		Frequency	Percent	Frequency	Percent
	11-20	18	8.5	34	14.7
	21-30	92	43.4	120	51.7
	31-40	36	17.0	36	15.5
Age	41-50	28	13.2	16	6.9
	51-60	22	10.4	11	4.7
	61-70	16	7.5	15	6.5
	Total	212	100.0	232	100.0
		Banking Sector		Telecom Sector	
		Frequency	Percent	Frequency	Percent
	Punjab	117	55.2	130	56.0
	KPK	34	16.0	42	18.1
	Sindh	18	8.5	20	8.6
Domicile	Baluchistan	11	5.2	10	4.3
	GBT	11	5.2	11	4.7
	FATA/FANA	11	5.2	8	3.4
	Federal	10	4.7	11	4.7
	Total	212	100.0	232	100.0
		Banking Sector		Telecom Sector	
		Frequency	Percent	Frequency	Percent
Gender	Male	143	67.5	159	68.5
	Female	69	32.5	73	31.5

	Total	212	100.0	232	100.0

Analysis and Results

Table 3a and 3b show two symmetrical matrices representing the correlations between the variables in the study. All the correlations are significant at *0.01* level. For banking sector, the correlation analysis for advertising spending shows significantly positive but weak relation with perceived quality (0.178), store image (0.297), satisfaction (0.279), and brand loyalty (0.067). The results provide evidence that the perceived quality is positively but moderately correlated with store image (0.697), satisfaction (0.666) and brand loyalty (0.509) of the customer. On the other hand, store image has significantly strong positive correlation with satisfaction (0.755) whereas moderate positive correlation with brand loyalty (0.534). The results for correlation between satisfaction and brand loyalty also indicate moderate positive relation (0.558) with high significance level (0.01) thus indicating this relationship to be significant as well.

Astoundingly, the correlation analysis for the dataset for telecom sector yielded somewhat similar results to those of banking sector during the correlation analysis. For the telecom sector as-well, the correlation analysis for advertising spending shows significantly positive but weak relation with perceived quality (0.208), store image (0.274), and brand loyalty (0.183). However, the correlation between advertising spending and satisfaction is moderately positive (0.332) in the current scenario.

Table 3a: Correlation Analysis (Banking Sector)
Correlations (Banking Sector)

Variables	AS	PQ	SI	SA	BL
AS	1				
PQ	.178	1			
SI	.297	.697	1		
SA	.279	.666	.755	1	
BL	.067	.509	.534	.558	1

Note: AS = Advertising Spending, PQ = Perceived Quality, SI=Store Image, SA = Satisfaction, BL = Brand Loyalty.

Correlations are significant at 0.01 level (2-tailed)

Given findings also narrate that perceived quality is positively but moderately correlated with satisfaction (0.662) and brand loyalty (0.450) of the customer. But contrary to the banking sector results, relationship between perceived quality and store image is strong positive (0.725).

Table 3b shows that similar to banking sector findings, store image has significantly strong positive correlation with satisfaction (0.737) whereas moderate positive correlation with brand loyalty (0.482). The correlation analysis findings also state moderate positive correlation between satisfaction and brand loyalty (0.475) at a high significance level (0.01) thus indicating this relationship to be positive significant as-well.

Table 3b: Correlation Analysis (Telecom Sector)

Correlations (Telecom Sector)

Variables	AS	PQ	SI	SA	BL
AS	1				
PQ	.208	1			
SI	.274	.725	1		
SA	.332	.662	.737	1	
BL	.183	.450	.482	.475	1

Note: AS = Advertising Spending, PQ = Perceived Quality, SI=Store Image, SA = Satisfaction, BL = Brand Loyalty.

Correlations are significant at 0.01 level (2-tailed)

In order to support internal consistency of construct, recommended threshold for composite reliability is greater than 0.6. However, for average variance extracted it is greater than 0.5 (Fornell & Larker, 1981).

It is evident from the findings presented in Table 4 that for both sectors under study, the average variance extracted is above the cutoff point i.e 0.50. Correspondingly, most of the values for composite reliability are above the cutoff point i.e 0.60 except for brand loyalty (0.51 and 0.39). This elucidates that convergent reliability of this measurement model for both sectors is well within the acceptable limits.

Table 4 Reliability Analysis

Convergent Reliability

| Construct | Item | Banking Sector | | | Telecom Sector | | |
		Factor Loadings	AVE	CR	Factor Loadings	AVE	CR
AS	AS 1	0.84	0.81	0.69	0.97	0.78	0.65
	AS 2	0.51			0.57		
SI	SI 1	0.78			0.75		
	SI 2	0.84	0.88	0.70	0.7	0.83	0.62
	SI 3	0.82			0.79		
PQ	PQ 1	0.77			0.74		
	PQ 2	0.83	0.90	0.72	0.8	0.87	0.67
	PQ 3	0.87			0.84		
SA	SA 1	0.83	0.85	0.75	0.73	0.78	0.63
	SA 2	0.88			0.82		
BL	BL 1	0.85			0.76		
	BL 2	0.68	0.76	0.51	0.57	0.65	0.39
	BL 3	0.76			0.65		

Note: AS = Advertising Spending, PQ = Perceived Quality, SI=Store Image, SA = Satisfaction, BL = Brand Loyalty.

In order to assess the model, a number of global fit indices have also been calculated using LISERL version 8.80. They represent how much of the variance in the covariance matrix has been accounted for (Bollen and Long, 1993). The global fit indicators for the current study suggest that the model-data fit is very good.

The χ^2 for the model under study is 130.44 (p=0.000, df=56) for sample for banking sector, whereas, it is 120.234 (p=0.000, df=56) for the telecom sector. In the current scenario the relative χ^2 (χ^2/df) is approximately 2:1 for both industries which is evident that the model is a good fit (Tabachnik and Fidell, 2007). The Goodness of Fit Index (GFI) values for this model are 0.913 and 0.926 respectively for both sectors. These GFI values are very close to the adequate level defined by Hooper, Coughlan and Mullen (2008). The Root Mean Square Residual (RMR) for the current model is 0.0453 for banking, whereas, 0.0410 for the telecom sector. The RMR values also corroborate it to be a good model-data fit (Tabachnik and Fidell, 2007) for both samples. Hu and Bentler (1999) are of the view that the Standardized Root Mean Square Residual (SRMR) for a model should be less than 0.08 which in the current scenario are 0.0492 (for banking sector) and 0.0425 (for telecom sector). This shows that SRMR for the current study is also within the acceptable limits to be a good fit. Table 5 summarizes value of goodness of fit indices.

Table 5: Goodness of Fit Indices
Global Fit Indices

Fit Index	Banking Sector	Telecom Sector	Recommended Guidelines
Chi-Square χ^2	130.44 (p=0.000)	120.234 (p = 0.000)	Low χ^2 relative to degrees of freedom with an insignificant *p* value (Hooper, Coughlan and Mullen, 2008)
Relative χ^2 **(χ^2/df)**	2:1 (approx)	2:1 (approx)	2:1 (Tabachnik and Fidell, 2007) 3:1 (Kline, 2005)
RMSEA	0.07	0.0410	Values less than 0.07 (Steiger, 2007)
GFI	0.913	0.926	Values greater than 0.95 (Hooper, Coughlan and Mullen, 2008)
RMR	0.0453	0.0410	Good models have small RMR (Tabachnik and Fidell, 2007)
SRMR	0.0492	0.0425	SRMR less than 0.08 (Hu and Bentler, 1999)
NFI	0.954	0.971	Values greater than 0.95 (Hooper, Coughlan and Mullen, 2008), Values greater than 0.90
NNFI	0.962	0.978	Values greater than 0.95 (Hooper, Coughlan and Mullen, 2008), Values greater than 0.90
IFI	0.973	0.984	Values greater than 0.90
CFI	0.973	0.984	Values greater than 0.95 (Hooper, Coughlan and Mullen, 2008)
RFI	0.936	0.959	Values greater than 0.90

For the model under study, the values for NFA and NNFA are 0.954 & 0.962 (for banking sector) and 0.971 & 0.978 (for telecom sector) respectively. This supports the fitness of the model with the provided data set. The values of Incremental Fit Index (IFI) and Relative Fit Index (RFI) should also be greater than 0.90 for a model to be testified as good fit with the data. The results for IFI (0.973 and 0.984) and RFI (0.936 and 0.959) as presented by LISERL 8.80 add to the fitness of the model. The results for Comparative Fit Index (CFI) are also very encouraging. The current CFI are 0.973 (for banking sector) and 0.984 (for telecom sector) which also supports the fitness of the model with the data (Hooper, Coughlan and Mullen, 2008). The above discussion concludes that the model under study is a very good fit with the data for both the sectors. This consents that individual hypothesis can be tested using the estimated path coefficients and their respective t- values.

The estimates of structural equations from LISERL show that for banking sector 71.4 percent (R^2=0.714) of variation in perceived quality is explained by store image and advertising spending together, whereas, 2.5 percent (R^2=0.0255) of variation in perceived quality is explained only by advertising spending. However, for telecom sector 79.8 percent (R^2=0.798) of variation in perceived quality is explained by store image and advertising spending together and 8.6 percent (R^2=0.0869) of variation in perceived quality is explained by advertising spending alone.

For the banking sector, the structural equations' estimates also narrate that 68.8 percent of variation

in brand loyalty is explained by perceived quality, store image, satisfaction and advertising spending as a whole (R^2=0.688), however, 0.74 percent of brand loyalty is explained by advertising spending alone (R^2=0.0074). Conversely, the story for telecom sector is a little different. Perceived quality, store image, satisfaction and advertising spending are narrators of 55.3 percent (R^2=0.553) variation in brand loyalty, whereas, advertising spending explains 12.4 percent (R^2=0.12.4) of variation alone.

The estimates also manifest that 93.8 percent (R^2=0.938) of the variation in satisfaction is explained by perceived quality and store image, instead, only 12 percent (R^2=0.120) of variation in store image is explained by advertising spending for banking sector. The estimates for telecom sector show that 86.9 percent (R^2=0.869) of the variation in satisfaction is explained by perceived quality and store image and only 14 percent (R^2=0.140) of variation in store image is explained by advertising spending only. The results also state that advertising spending account for 14.7 percent (R^2=0.147) in the explanation of store image for banking sector and 16.7 percent (R^2=0.167) for telecom sector.

Path analysis has been conducted in order to test the hypothesis as well as to find any indirect relationships in this study. The standardized paths and their corresponding t- values have been calculated using LISERL 8.80. A commentary by Chin (1988) on Structural Equation Modeling (SEM) suggest that a standardized path coefficient greater than 0.50 reflects a larger effect, whereas, a standardized path coefficient of 0.30 and above is a sign of medium effect. Chin (1988) also stated that in order to generate more meaningful discussion from the results, a standardized path coefficient of 0.30 and above is recommended. Furthermore, the threshold level for the absolute t- value is 1.96 for α=0.05 (Chin, 1998; Butt and Aftab, 2013). In this study, γ_a and β_a are the path coefficients, whereas, t_a is the t-value for banking sector. Likewise, γ_b and β_b have been used for path coefficients and t_b for t-values for telecom sector.

Hypothesis - H₁: The hypothesis testing findings elucidate that there is negative but significant relationship ($\gamma_a 11$= -0.19, t_a= -2.13) between advertising spending and brand loyalty for banking sector, contrariwise, for telecom sector this relationship is positive but insignificant ($\gamma 11_b$=0.18, t_b=1.57). So, hypothesis - H₁ is not supported (Tai, 2007; Heimonen and Uusitalo, 2009) for both the service sectors.

Hypothesis - H₂: Advertising spending does have a medium positive and significant ($\gamma 12_a$=0.29, t_a=3.41) relationship with store image for banking sector, besides, relationship between both variables is strongly positive and significant ($\gamma 12_b$=0.45, t_b=3.19) for telecom sector. Thus hypothesis - H₂ is supported (Tai, 2007; Ha *et al.,* 2011) for both sectors.

Hypothesis - H₃: The scenario for H₃ is similar to H₁ to an extent. The hypothesis testing results show that for telecom sector relationship between advertising spending and perceived quality is negative and insignificant ($\gamma 13_b$= -0.08, t_b= -1.29), on the other hand, it is negative but significant ($\gamma 13_a$= -0.14, t_a=-2.34) for banking industry. This implies that contrasting to previous studies (Moorthy and Zhoa, 2000) hypothesis - H₃ is not supported for any sector under study.

Hypothesis - H₄: There was no significant direct effect of store image found on brand loyalty ($\beta 12_a$=

-0.11, t_a= -0.10; $\beta12_b$= -0.45, t_b= -0.96) thus hypothesis - H_4 for both the sectors is not supported.

Table 6: Hypothesis Testing Results

Hypothesis Testing Results

Hypothesis	Hypothesized Path	Banking Sector			Telecom Sector		
		Path Coefficient	t-value	Results	Path Coefficient	t-value	Results
H_1	AS → BL (γ11)	-0.19	-2.13	Significant	0.18	1.57	Insignificant
H_2	AS → SI (γ12)	0.29	3.41	Significant	0.45	3.19	Significant
H_3	AS → PQ (γ13)	-0.14	-2.34	Significant	-0.08	-1.29	Insignificant
H_4	SI → BL (β12)	-0.11	-0.10	Insignificant	-0.45	-0.96	Insignificant
H_5	SI → PQ (β13)	0.89	8.57	Significant	0.84	10.41	Significant
H_6	SI → SA (β14)	0.91	5.56	Significant	0.94	2.08	Significant
H_7	PQ → BL (β23)	-0.05	-0.19	Insignificant	0.56	2.09	Significant
H_8	SA → BL (β34)	1.07	0.96	Insignificant	0.71	2.08	Significant

Note: AS = Advertising Spending, PQ = Perceived Quality, SI=Store Image, SA = Satisfaction, BL = Brand Loyalty.

Hypothesis - H_5: Table 6 shows that store image has highly significant and a large positive relationship with perceived quality ($\beta13_a$=0.89, t_a=8.57; $\beta13_b$=0.84, t_b=10.41). This advocates that hypothesis − H_5 is supported (Bloemer, Ruyter, and Peeters, 1998) for both sectors.

Hypothesis - H_6: The findings are evident that store image has highly significant, large positive relationship with satisfaction as-well ($\beta13_a$=0.89, t_a=8.57; $\beta13_b$=0.84, t_b=10.41). This recommends that hypothesis − H_6 is also supported (Riel, *et al.*, 2012) for both banking and telecom sectors.

Hypothesis - H_7: Perceived quality's direct effect on brand loyalty was found to be negative and insignificant ($\beta23_a$= -0.05, t_a=- -0.19) for banking sector, however, this relationship was large positive and highly significant ($\beta23_b$=0.56, t_b=2.09) for telecom sector. Thus hypothesis − H_7 is supported for telecom sector (Erdogmus and Turan, 2012) but not supported for banking sector.

Hypothesis − H_8: Results similar to hypothesis − H_7 have been found for relationship between satisfaction and brand loyalty. There is large positive but insignificant effect ($\beta24_a$= 1.07, t_a=0.96) found for banking sector, whereas, it was large positive and highly significant ($\beta24_b$=0.71, t_b=2.08) for telecom sector. Thus hypothesis − H_8 is also supported (Adamson, 1994) for telecom sector but not supported (Bennett and Thiele, 2004) for banking sector.

Indirect Effects: One of the objectives of this study was to investigate the indirect effects (if any) between the latent and observed variables. In this regard, the possible significant indirect relationships have been calculated in Table 7. For banking sector advertising spending does have indirect effects on perceived quality and satisfaction via store image. These results are very close to the cut off point for medium relationship (Chin, 1988). No significant indirect effects of advertising spending were found on brand loyalty for banking sector.

The data analysis yielded two significant positive indirect effects of advertising spending on brand

loyalty. One relationship is mediated store image and perceived quality, while the other is mediated by store image and satisfaction (Ha *et al.,* 2011). Both of the indirect effects are significant at p < 0.05.

Table 7: Indirect Relationship

	Banking Sector	Telecom Sector	
Indirect Path	**Standardized Estimate**	**Standardized Estimate**	**Significance**
AS → SI → PQ ($\gamma 12_a \times \beta 13_a$)	0.258		Significant at p< 0.05
AS → SI → SA ($\gamma 12_a \times \beta 14_a$)	0.264		Significant at p< 0.05
AS → SI → PQ → BL ($\gamma 12_b \times \beta 13_b \times \beta 23_b$)		0.136	Significant at p< 0.05
AS → SI → SA → BL ($\gamma 12_b \times \beta 14_b \times \beta 34_b$)		0.194	Significant at p< 0.05

Note: AS = Advertising Spending, PQ = Perceived Quality, SI=Store Image, SA = Satisfaction, BL = Brand Loyalty.

Four endogenous variables have been tested in the model. The direct effects of advertising spending on brand loyalty and the indirect effect of advertising spending on brand loyalty via store image, perceived quality and satisfaction have been measured. Based upon the path coefficients (estimates) and the t-vales the following hypotheses have been accepted for banking sector: H_2 (AS → SI), H_5 (SI → PQ) and H_6 (SI → SA). The accepted hypothesis for telecom sector are: H_2 (AS → SI), H_5 (SI → PQ), H_6 (SI → SA) H_7 (PQ → BL) and H_8 (SA → BL). Two indirect significant relationships have been also brought into being by this study for each sector. For banking sector the indirect effects are AS → SI → PQ and AS → SI → SA. However, for telecom sector the two calculated indirect effects are AS → SI → PQ → BL and AS → SI → SA → BL.

4 Discussion

In this study, no direct positive influence of advertising spending on brand loyalty was found for both service sectors. This may be due to the cultural and perceptual difference between the respondents of both the studies. However, this conclusion is no different than the findings of study by Tai (2007) which states that advertising spending has no direct influence on the brand loyalty. But on the other hand, this study does support a negative but significant relationship between advertising spending and brand loyalty for banking sector. This suggests that 1% increase in advertising

spending results in 0.19% decrease in the brand loyalty of the customers for this sector. This implies that the customers of banking sector in Pakistan may think that the investment that a company should make in enhancing the provided services is being squandered in the advertising.

The positive relationship between advertising spending and perceived quality was also not supported, as hypothesized. This may be due to the difference of level of education and difference of perception of quality between the sampling frames of the current study and the previous studies. However, there was a significant but inverse relationship found in this study between both variables for banking sector. This proposes that 1% increase in advertising spending consequences 0.14% decrease in perceived quality. This may also state that customer mindset for this particular industry is that instead of spending on advertising, the provider may invest in improving the quality of services it is offering.

The hypothesized influence of advertising spending on store image was supported in this study. The results are positive and significant and are also endorsed by previous studies (Tai, 2007; Ha, *et al.*, 2011). This states that 1% increase in advertising spending builds up 0.29% store image for banking sector and 0.45% store image of telecom service providers in Pakistan. Store image of telecom sector seems to be more influenced by the advertising spending in this study.

Contrary to the findings of Kremer and Viot (2012), the direct positive relationship between store image and brand loyalty was not accepted in this study. On the other hand, the relationships of store image with perceived quality (Bloemer, Ruyter, and Peeters, 1998) and with satisfaction (Binninger, 2008; Riel, *et al.*, 2012) are supported for both sectors. This implies that, store image doesn't directly create brand loyalty; however, it does affect the perceived quality and also influences the satisfaction level of the customers. This may ultimately lead to brand loyalty. The findings are evident that for banking sector, 1% increase in store image results in 0.89% increase in perceived quality and 0.91% increase in satisfaction. On the other hand, 1% increase in store image outcomes 0.84% increase in perceived quality and 0.94% increase in satisfaction for the telecom industry.

Bahia and Nantel (2000) are of the view that quality is important for all types of organization but is particularly important for the organizations working in the service sector. Some of the previous studies suggest that perceived quality is among the most suitable predictors for brand loyalty (Ha, Janda and Park, 2009; Erdogmus and Turan, 2012) but in study under discussion this relationship was not found significant for banking sector. However, it was significant for the telecom sector. This implies that 1% increase in perceived quality consequences 0.56% increase in brand loyalty. This also implies that in Pakistani market perceived quality matters for customers of telecom sector to become brand loyal with a particular telecom brand. However, for banking sector role of perceived quality is not evident.

Finally, as hypothesized, the relationship between satisfaction and brand loyalty was supported for telecom sector. This advocates that the satisfaction of the customer leads to brand loyalty which is no

different than the findings of many previous studies (Adamson, 1994; Tepeci, 1999; Olsen, 2002; Bennett and Thiele, 2004). This implies that 1% increase in satisfaction leads to 0.71% increase in brand loyalty of telecom sector customers in Pakistan. Contrarily, this relationship was not found significant for banking sector. This result is in accordance with the findings of a previous study (Bennett and Thiele, 2004) which overtly states that for banking sector satisfaction does not lead to brand loyalty.

There were also some indirect relationships found in this study. For banking sector the significant positive indirect relationships were between advertising, store image and perceived quality, and between advertising spending store image and satisfaction. In line with the finding a previous study (Ha *et al.,* 2011) two insignificant relationships were also found for telecom sector. This implies that advertising spending does have indirect effect on brand loyalty. In one case, this relationship is mediated by store image and perceived quality while in other case it is mediated by store image and satisfaction. On the basis of the discussion above, it is evident that that the model was a good fit along with reliable internal consistencies of the constructs as well as the supportive inter-item correlation values. However, path analysis shows that the entire predicted hypotheses were not supported.

Theoretical Implications of the study

The findings of this study lead to report considerable understanding of effects (direct and indirect) of advertising spending on brand loyalty. This study supports most of the previous work done in this field (Adamson, 1994; Tepeci, 1999, Binninger, 2008; Theodoris and Chatzipanagiotou, 2009; Ha, *et al.,* 2011; Riel, *et al.,* 2012). The literature review of this study proposed an additional relationship hypothesized as H_6 (SI → SA) and has failed to be rejected via path analysis for both the sectors ($\beta14=0.73$, t=5.74). It also builds on and contributes to the previous studies on advertising spending and brand loyalty by presenting a Pakistani perspective. This work also adds to the literature on advertising spending and brand loyalty by following the recommendations from previous studies that highlighted the need to validate the PRM in different cultures and contexts in order to enhance its generalizability (Ha, *et al.,* 2011).

Managerial Implications of the Study

Based on the finding of this study, a number of practical implications for the managers can be extracted. First of all, this study provides evidence that adds to the generalizability of the PRM and that it can be also be used by Pakistani managers to study the effects of advertising spending on the brand loyalty. Ha, *et al.* (2011) proposed this model based on their study in South Korea. Now this model has been tested in Pakistan and the model-data fit suggests that this model is also reliable for use in this country as well.

This study advocates that for banks and cellular service providers (may be other service industries as well), advertising budgets may be focused towards building store image as the store image has direct influence on satisfaction of the customers. This satisfaction may lead to brand loyalty. This study narrates that store image also has strong impact on perceived quality. So if the managers want to improve the level of perceived quality in the minds of the customer, they may improve their store image. The store image may be improved by investing on the aesthetics and facilities at the outlets/franchises.

Previous work in this field (Bennett and Thiele, 2004) states that in case of banks (and some other industries) satisfaction does not lead to brand loyalty. Similarly, this study also advocates that for banks satisfaction does not affect brand loyalty. But it does for telecom sector. So the managers of telecom sector need to increase the satisfaction level of the customers if they wish to strengthen their brand's loyalty. This study also suggests that there is no direct or indirect effect of advertising spending on brand loyalty for baking sector. In-fact, advertising sending is inversely proportional to brand loyalty. So the managers at banks may want to switch focus from spending more on advertising to enhancing user experience by improving quality of service.

Lastly, this research can aid in designing the marketing mix for service industries, particularly for banking and cellular service sectors. This study suggests that store image plays an important role in building brand loyalty through increasing the satisfaction level of the customers. The store image actually enhances the user experience and creates positive perception and outlook of company. Thus increase in budget for in store advertising and improvement of user experience at the outlets may lead to increased brand loyalty for that service.

5 Conclusion

This study was aimed to explore the effects of advertising spending on brand loyalty by simultaneously studying the mediating role played by perceived quality, store image and satisfaction. The basic limitation is that only the constructs from the PRM have been analyzed, whereas, the literature suggests many additional constructs to study this relationship. The sampling frame of this study includes students (Colleges and Universities), employees at public and private sector organizations and visitors at outlets of specified banks and cellular service providers. In order to ensure the generalizability a more comprehensive sampling frame could have been used. A self-administered questionnaire has been used in this study to collect data. So, in order to justify the validity, due explanation is required. Moreover, this study is focused on baking and cellular service sector only. This is also a limitation for this study.

This study explores to study the effects of Advertising Spending on Brand Loyalty, in Pakistani Market. Further research may be done to test PRM in other cultures and in other industries. The additional relations as predicted in this study as hypothesis H_6 (SI $\rightarrow$ SA) can also be tested for different sampling frames and different industries. Apart from the constructs defined in model, there

are a number of other constructs which can be taken into consideration while studying the effects of advertising spending on brand loyalty. Future research may incorporate those variables to study this relationship.

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Customer Loyalty Programs – Concept, Types, Goals and Benefits (A Conceptual and Review Paper)

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Dedication**: (*Dedicated to worthy researchers cited at the end whose studies provided ingredients for this article*)**

Abstract

Loyalty programs are becoming one of the most influencing factors for the increase of company profit. A loyalty program is an integrated system of marketing actions that aims to make member customer more loyal. The goal of these programs is to enhance customer relationships by offering high value to profitable market segments. This enhanced relationship leads to increase of customers loyalty casing repeat purchase, more purchasing, convincing other potential customers to purchase through words of mouth, refraining existing customers from switching, causing the increase of sale and consequently causing to increase the total revenue and total profit. This is a review article based on the study of research papers.

Introduction

The phenomenon of customers loyalty among marketers, received a great deal of interest (Reddy et al 2011) even customer loyalty was in mind of most marketers during the 1980s and many companies spent millions on management programs of customer relationship for building customer loyalty (Pitta et al 2006). Loyalty has become important over the past few years, because of increased competition within respective industries. Companies infer "loyalty" for having a similar meaning and have developed strategic advertising and marketing efforts for creating a connection between the customers and company (Liang 2008). Commonly speaking, customer loyalty is the intention of customers to repurchase products and services, which is the goal of industry (Pi, & Huang 2011). Customer loyalty is one of the key factors of success of a company (Krumay & Brandtweiner 2010).

Gudonaviciene & Rutelione (2009) expressed with citations that loyalty programs are becoming most influencing factor for increasing profit of the company. As Marshall (2010) asserted that practice and theory of marketing has increasingly become customer centered and managers increasingly emphasize on long-term customers relationships because it is assumed that the length of

tenure of a customer, is related to, long-run profitability and revenues of company. Firms adopt many tactics to gain loyalty of clients, and customers' loyalty program is one among them. Thompson (2007) emphasized the importance of having a loyalty program intended for raving and recommending about a company's product or service and keeping customers coming back.

Ivanauskiene & Auruskevicien (2009) with citations expressed that loyalty programs are tactical marketing approaches almost common in all business industries. Companies develop and implement their customers loyalty programs for managing their loyalty and retention. Wang & Head (2005) quoting several studies revealed that loyalty programs help to build certain customers' relationships. Tactics or programs like frequent-buyer schemes accumulate points and develop a barrier to exit. Ivanauskiene & Auruskevicien (2009) also asserted that customer loyalty programs create exit barriers for customers for buying new products and encourage consolidation of purchases.

A customer loyalty program is defined as: "mechanism for identifying and rewarding loyal customers". Some researchers consider it easier, to increase sales based on trust that transform the non-buyers. The cost of acquiring a new customer is ten times higher than the cost of retaining an acquired customer. The longer is the duration of customer and the company relationship, the more significant and strong are the propensities to recommend the company (Bahri-Ammari, 2012).

Primary motive of loyalty program is rewarding customers for repeat purchase behavior, maintaining, encouraging, and enhancing loyalty level by providing them targets at which they can earn various benefits. Marketers by implementation of effective reward programs retain their old customers and in addition, also attract new customers, some of whom are likely to become loyalists in the future. Loyalty programs are highly effective in retaining customers and both retailers and customers also accept them (BOSE and RAO 2011).

BOSE and RAO (2011) described citing Dowling and Uncles (1997) in enhancement of the overall value of the product loyalty programs are important because they motivate loyal customers for making their next purchases. Loyalty programs also increase the customer's switching costs because customer as a loyalty program member buys from a single firm to rapidly accumulate the rewards. This increase of switching costs has an important implication for customer loyalty in the long run as longer is the membership in the program the greater is the incentive loss on exit. This causes a long-term lock-in for customer.

Ivanauskiene & Auruskevicien (2009) opined that rewards based loyalty programs should increase customer loyalty and brand sales, lower price sensitivity of customer and encourage behavior change. However some loyalty programs, reward membership of program and not loyalty itself. Well-maintained loyalty program are helpful to managers in getting detailed information about customer behavior and help in developing personalized communication and offers.

Definition of Customers Loyalty and Loyalty Programs

Customers Loyalty

According to Wijaya (2005) defining customer loyalty is not easy, because many people and managers perceive customer loyalty equivalent to customers' repeat purchase behavior. So Leong et al (2012) narrated that there are no definite boundaries until now, on the antecedents supporting loyalty of customers.

According to Krumay & Brandtweiner (2010) there are various ways of defining loyalty. As Thompson (2007) has already reported that in a 'Customers' Think survey, 68 percent respondents defined it as repeat purchasing behavior; 59 percent respondents as customers' referrals to colleagues and friends; and 56 percent respondents as an emotional commitment of customers.

Wijaya (2005) quoted a definition of customer loyalty offered by Kotler, Bowen and Makens (1999) as:

"How likely customers are to return and their willingness to perform partner-shipping activities for the organization". Kotler, Bowen and Makens (1999)

Basarir & Dhaheri (2009) asserted (referring Stone et al., 2000) that:

"The term customer loyalty is a physical and emotional commitment given by customers in exchange for their needs being meet". - Stone et al., 2000

Akbar & Parvez (2009) referred definition of Pearson (1996) as:

"Customer loyalty as the mind set of the customers who hold favorable attitudes toward a company, committed to repurchase the company's product or service, and recommend the product or service to others. - Pearson (1996)

Loyalty Programs

Wijaya (2005) revealed that customer loyalty programs have no exact definition in academic literatures. The basic meaning of loyalty programs is defined based on its objectives. Loyalty programs are offered to the customers to build their emotional attachment for a brand and are not merely set to encourage them to repurchase. Wijaya (2005) referred a statement of Butscher, (2002) that:

"A customer loyalty program's primary purpose is to build a relationship with the customers that turns them into long-term loyal customers, who ideally will obtain their lifetime demand for specific product or service from the company sponsoring the loyalty programme".

According to Bahri-Ammari (2012) customer loyalty program is defined as: "mechanism for identifying and rewarding loyal customers".

BOSE and RAO (2011) described that customers loyalty programs are defined in different ways by different researchers and quoted Liu (2007) who defined loyalty program as:

"A program run by the marketer that allows consumers to accumulate free rewards as incentives for making repeat purchases with a firm." Liu (2007)

Customers Loyalty Programs - Concept

According to Uncles et al (2002) and Bagdonienė & Jakštaitė (2007) long-term organization and customers' relationships and customers' loyalty is the most significant assumption of today's business success. Recent advancements in information technology provided marketing tools to the managers for creating a new generation of tactics for Customers Relationship Management (CRM). 'Loyalty program' is one such tactic that thousands of firms considered, and adopted, is to establish a customer loyalty. With the aim to gain customers' favor loyalty programs began to develop at the last decades of 20th century and until now are still popular. These are created and implemented to gain and enhance customer loyalty. But by itself loyalty programs do not guarantee success. Organizations at the beginning of program development, should know what is to be considered for program success and how to measure it. Whether loyalty programs reaches aims depends on if the program is beneficial to its participants. These programs offer relationship and financial rewards to customers, sometimes benefits also accrue to third parties like charities and the main criteria of success of loyalty program should be perceivable value of customers' i.e. a background to their loyalty.

Marshall (2010) reported that research attention has focused, on the identification of loyalty enhancing, 'effective methods of actively', including loyalty programs, like 'points reward schemes'. Loyalty programs by rewarding the buyers for repurchasing from the firm "create a reluctance to defect". Therefore foregoing, leads to the conclusion that Customer Lifetime Value is inextricably annexed to efforts aiming at furthering retention of customer, such as loyalty programs.

Oracle Corporation (2005) reported that loyalty programs in the business are everywhere. Customers almost daily interact multiple times with them—whether buying a coffee cup, shopping at a grocery store, staying at a hotel, flying on an airline, or paying a bill of cell phone so companies are convinced on the possibility to buy loyalty of customers. And Marshall (2010) reported with references that total membership of USA loyalty program grew 35.5% from the year 2000 to 2006 and now membership of 1.3 billion individuals shows annual membership growth on average 5.93%

during this period.

Ivanauskiene & Auruskevicien (2009) citing literature asserted that loyalty programs value the participants because the customer became brand loyal stress the importance of providing all five value elements to the customer i.e. 1-rebates or cash value, 2- the range of rewards offered, 3- aspiration value, 4- relevance and 5- convenience.   Loyalty programs (a) offer economic benefits to brand users and (b) enhance emotional bond between the brand and customer. An organization must build its loyalty program when business objectives are identified clearly and it is only way of establishing a proper mechanism and deciding whether it works sufficiently.

BOSE and RAO (2011) wrote that firms outsmart their competitors through a various marketing tactics and strategies, one among them is the ubiquitous 'loyalty program', which, means rewarding a buyer on re-buying the product or service by coming back. Jain & Singhal (2012) argued that for companies dealing in the apparels, retailing sector, hotel industry and airlines business loyalty programs are an important element of management of customer relationship, to encourage the customers in making buying decisions more dynamically while purchasing repeatedly with the company. The loyalty programs provide rewards on cumulative purchasing, enhancing retention of customer and encouraging them purchasing repeatedly, which provide them beneficial incentives.

KOÇOĞLU (2012) expressed citing some researches that customers today are aware of their power on the market and all the activities are realized for them. Loyalty of consumers to the products decreases as the alternatives increase. Firms now are making effort to offer at a lower cost than their competitors the products and services that can fulfill the customer expectations and desires fully, rendering customers more loyal. The firms employed tactics for creating customer loyalty are listed below:

- Rewarding those who are sending new customers,
- Personal letters sending,
- Thank-cards sending,
- Reminding on telephone,
- Preparing occasions and events peculiar to customer,

- ▪ Selecting the field wherein they are the best
- ▪ Evaluating the customer complaints in detail and giving quick replies

Butscher (1998) asserted that marketing of loyalty has arrived at a plateau and it must, now shift to the next level, i.e. value-oriented, customer loyalty programs. These value-oriented customer loyalty programs establish an emotional relationship between customer and firm for creating long-term loyalty and do not solely focus on simple discounts but offer a powerful advantages package comprising soft and hard benefits. This strategy is rapidly becoming popular in Asia, America, and Europe. The success of loyalty programs to a great extent depends on the quality of offered benefits, which must have from the perspective of customers a high-perceived value.

Stone et al. (2004) concluded that schemes of loyalty are one of many competitive initiatives that retailers use for supplementing the traditional weapons of location, price, brand, customer service, product promotions, and merchandise range. Strong focus is on the experience of end-to-end shopping, for winning and retaining customers and improving their share of business.

Liu (2007) and Jain & Singhal (2012) defined "Loyalty Programs" as: The programs allowing customers for accumulation of free rewards by making repeated buying with a company and therefore encouraging the customers to remain loyal to the company. Service industry and retailers predominantly run loyalty programs. These programs rarely benefit consumers in a single purchase but intend to foster customer loyalty in long run. One way of these programs is issuing loyalty program cards to buyers, which are paper or plastic card, in visibility like other financial cards having a mag-stripe or barcode that can easily be scanned when swapped at the particular stores that, identify the cardholder as a loyalty program member. Loyalty cards can also be in small key ring cards form, often used for ease of access and convenience in carrying for the consumers.

Bolton et al (2000) asserted that, the goal of loyalty programs generally is retaining of customer in profitable segments by providing them increased value and satisfaction therefore several supermarkets target their preferred buyers programs toward heavy users. Bolton et al (2000) concluded that firms offer loyalty reward programs with the belief that these programs have a long-run positive effect on behavior and evaluations of customer.

Effects and Benefits of Loyalty Program

Oracle Corporation (2005) reported that many companies of different industries have invested in loyalty programs, begging the question "Do loyalty programs work?" with resounding answer 'Yes'. A loyalty program when properly executed delivers long-lasting, significant benefits in

the areas of product and service differentiation, customer knowledge, profitability and customer retention, to the host company. By loyalty program company gains detailed knowledge of its customer base with the consent of customer. Customers actually want to provide detailed profile information and transaction to ensure the receipt of the full benefits of being a program member. Oracle Corporation (2005) also reported that a well-honed loyalty program improves retention rates of customer, by increasing "switching costs," of a member, bore by a member customer for switching to a competing provider. These costs also include decreased service quality and the time and resources required for building new relationship. Higher are the switching costs for members the more likely are the members to remain loyal.

Wijaya (2005) narrated that the benefits offered are of two types namely *hard* or *financial benefits* and non-financial or *soft benefits*. Hard benefits are tangible, financial benefits, for example discounts, rebates or coupons and immediately recognizable by all members leading to savings in one or another form and rivals can easily imitate these benefits. Soft benefits are company and product related mostly intangible like the value-added services, the special offers, the special treatment, and the recognition and reward that the customer is expecting, and less copied by rivals.

Chen & Ching (2007) expressed that loyalty programs give incentives to customers for maintaining their relationships and evoke a sense of value of being recognized (e.g. exclusive offers, preferential treatment, elitism) and rewarded (e.g. perks, redeemable points) for participation in the relationship, helping to shape attitudinal and behavioral preferences for the product or service of the company, and consequently building loyalty. Chen & Ching (2007) further expressed that cross selling and loyalty programs cast similar effects on customer loyalty. Similarly, cross selling increases or enhances the relationship breadth through value-added product and service offerings that increase the customer's patronage value and further fulfills their current and future needs.

Dowling & Uncles (1997) revealed that the loyalty program's members attracting potential depends on the offered rewards value and also on 'when' the rewards are available. Gudonaviciene & Rutelione (2009) expressed loyalty program as bilateral benefit between customers and company and customers proved that they request creation of more and more interesting programs for them so a lot of loyalty programs of many versions have been framed out and customers can select from them.

Jain & Singhal (2012) concluded that loyalty programs affect the customer buying behavior positively as it impacts the customers to make repeated purchases as customers find attached with the brand different benefits i.e. immediate and delayed or direct and indirect. Loyalty Programs build emotional bonds causing irreversible high switching costs. These programs help in increasing retention of customers, which improves a profitability of company significantly meaning their positive impact. Jain & Singhal (2012) further added that due to different types of benefits perceived by customers they demonstrate committed behavior towards these programs. Economic, sociological

and psychological rewards in nature lead to greater commitment, trust, and development of longer lasting relations. Loyalty Programs influence loyalty of customer differently in case of high and low involvement buying. Due to their psychological, emotional and demographical factors different customers exhibit different behavior for the same loyalty program scheme. Loyalty program generated loyalty more than price promotion, and price promotion also generated a temporary, market share gain.

Gyulavári (2010) with citations expressed that a loyalty program deliver several types of hard and soft benefits to customers. Hard benefits referring to tangible rewards, such as gifts and discounts whereas soft rewards incorporate treatment and special communication. The other types of rewards are distinguished as immediate and delayed rewards and from another perspective direct and indirect ones. Indirect rewards have no connection to the product or the service itself against direct rewards.

In case of immediate rewards is some value awarded to customer, such as prompt price reduction while purchasing but in delayed rewards benefits are obtained later, after making a given extent of purchases. Researchers differentiate customer benefits of loyalty programs in three groups, 1 - the utilitarian, 2 - the hedonic and 3 - the symbolic. The utilitarian benefits consist of instrumental and functional values, e.g. convenience or monetary savings. In hedonic benefits customers are concerned with experimental and the emotional aspects of the loyalty program. They perceive joy or find the loyalty scheme entertaining when trying new products in its frame. The former one is called exploration dimension.

Symbolic benefits are referring to status (recognition dimension) prestige, or just belonging to groups with similar attitudes and values (social dimension). The recognition dimension effects perception of customer strongly concerning company made relationship investment. The second strongest influence is of monetary savings.

The process effects of loyalty programs is shown below in diagram-1

Diagram –1 Showing route of effects of loyalty programs
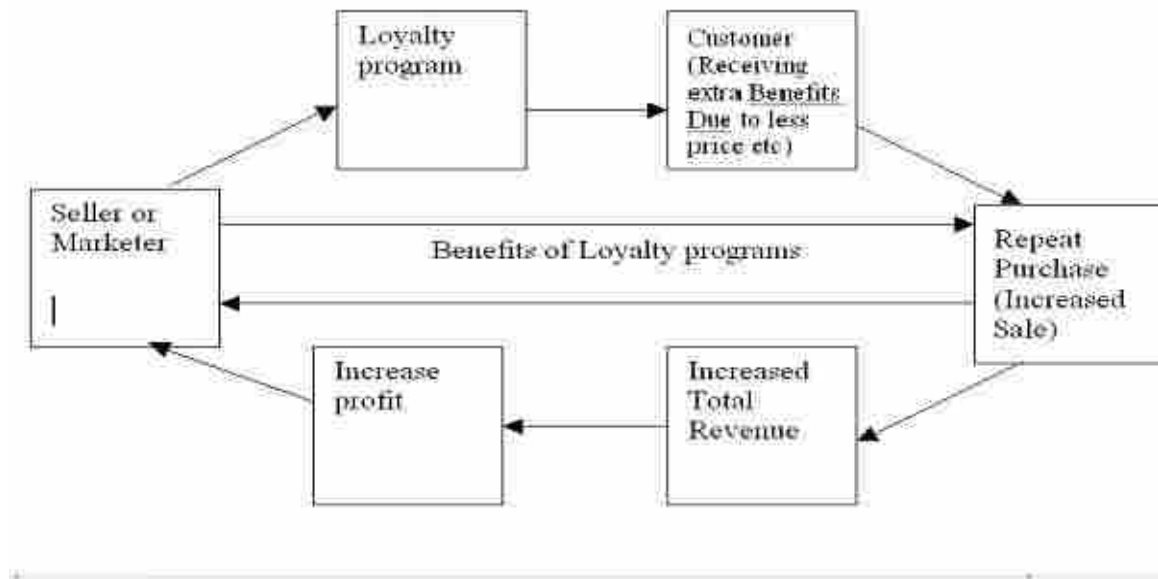
Source- Self constructed by squeezing from cited literature

Goals/ Objectives and Purposes of Loyalty Programs

According to Oracle Corporation (2005) and Jain & Singhal (2012) while launching loyalty programs companies typically have many goals, all focused on generating more profits from them. These goals include:

• Improving customer's knowledge
• Leveraging that knowledge for increasing the sales of highly profitable and undersold products and services
• Increasing retention and purchase frequency customer

Bagdonienė & Jakštaitė (2007) expressed that a loyalty program is an integrated system of marketing actions aiming on making member customer more loyal. The goal of creating and implementing the loyalty programs is achieving customer loyalty and enhancing relationships of customer by offering high value to profitable market segments.

Ivanauskiene & Auruskevicien (2009) also narrated that loyalty programs are created for many of reasons, i.e. 1- increasing brand loyalty 2 - reducing price sensitivity of consumer and their alternative brands testing desire 3 - reinforcing positive word-of-mouth support 4 - increasing users

number and the number of products purchased 5 - generating information 6 - manipulating behavior of customer, etc.

Gudonaviciene & Rutelione (2009) asserted that to company good loyalty program provides many advantages. Mostly loyal customers pay for the desirable product and request for discounts less persistently. It is still difficult to estimate how effectively loyalty programs are operating and whether the company has information about customers, loyalty programs, etc.

According to Acatrinei & Puiu (2012) the aim of customer relationship management (CRM) programs such as loyalty program is increasing repeat-purchase behavior than actual market share gaining. Thus, loyalty programs are directed mainly towards existing consumers who should, display the following: 1 - decreased switching towards non-program retailers, 2 - increased share-of-wallet allocation, 3 - increased repeat-purchase rate, 4 - increased usage frequency and greater propensities to be exclusively loyal. It is possible that the result incurred because of a loyalty program is a large increase in repeat purchase behavior, with a small increase in market share.

Gudonaviciene & Rutelione (2009) referred Uncles & Dowling (1997) who mentioned two purposes of loyalty programs. 1 - Increase the profit by increasing the number of purchases among customers and also expanding the assortment of products from suppliers. 2 - More stabile, i.e. while creating stronger relations among present customers and brands, company seeks to strengthen and keep the database of customers.

According to Dowling & Uncles (1997) under tough market conditions, to stand the best chance of success, a loyalty program must enhance the product's or service's overall value-proposition, which will help in motivating purchasers to purchase other products, and therefore supporting other aspects defensive and offensive marketing strategy of the firm.

Dowling & Uncles (1997) listed following reasons of benefits of Loyalty Programs:
  (a) Less customers serving costs,
(b) Loyal customers are less, price sensitive
(c) With the company loyal customers spend more, and
(d) Loyal customers pass on positive recommendations about their favorite brands and suppliers.

These are seemingly very alluring benefits and go far explaining renewed interest in customer loyalty programs.

Uncles et al (2002) mentioned following two aims of customer loyalty programs.

1 - increasing sales revenues by raising levels of purchase and usage, and increasing the range of products purchased from the supplier.

2- building a closer bond between the current customers and brand

According to Uncles et al (2002) these programs' popularity is based on the reason that by achieving any of their aims profits of the firm can be increased significantly. Other peripheral goals of loyalty programs are: creating databases, establishing alliances, furthering cross selling, assisting brand PR, aiding trade relations etc.

Murat & Cevdet (n.d) in their study on restaurant customers concluded that aims of a loyalty program of a restaurant is getting and keeping clients. The aims of a business specializing in loyalty programs may include as follows:

- Get valuable customers,
- Maintain market share,
- Retain and increase valuable customers,
- Upgrade high value customers,
- Maintain a significant group of moderate value customers; and
- Form an opportunity cost through a competitor.

Murat & Cevdet (n.d) quoted that service firms including restaurants may consider loyal customers as an part-time or extended sales force and managers reward them on recommending the business repeatedly to others by providing them price discounts not available to other customers; giving them personal recognition; providing them other types of rewards, such as additional or extended services, service upgrades, and directly compensating those customers whose recommendations result in new customers for the organization.

Palmatier (2007) reported that practitioners bombard customers with patronage programs and target customers with value-creating strategies, relationship marketing efforts, and key account programs.

Liu (2007) citing many researches expressed that often loyalty programs are considered instruments of value sharing and enhance perceptions of customers for what a firm offers. This function of value enhancement is important because the superior value provide ability is instrumental to customer relationship initiation and retention. Enhancement of value perception is a necessary condition for success of a loyalty program.

Liu (2007) quoting several studies asserted that loyalty programs provide in two stages value to consumers. 1- in the first stage, points of program at the time of purchase are issued to consumers. Though until redeemed, these points have no practical value but have important psychological meaning to consumers. The psychological benefits increase the transaction utility of a purchase and, subsequently, the overall value perception of doing business with the firm. 2 - consumers in the

redemption stage, receive both economic and psychological benefits from a loyalty program. The free reward conditions customers to carry on doing business with the company by functioning as a positive reinforcement of customers purchase behavior. Psychologically, free rewards giving to customers, shows the company's personal recognition and appreciation of its customers. This feeling of being important increases overall well-being sense of customers deepening their relationship with the company.

Wahab et al (2011) quoted from studies that to develop loyalty programs marketers have invested great amount of their resources. A study investigating the loyalty marketing effectiveness in practice revealed that with strong value propositions a well-designed loyalty program is a key factor for successful loyalty marketing. In another research it was investigated that the affective and behavioral loyalty to establish the role of loyalty programs found that loyalty programs' participants are more behavioral and affectively loyal than non-participants. After joining a loyalty program most customers do not change their purchase behavior. Understanding the process of customers' loyalty decisions is important to develop an effective loyalty program, as the customer value propositions and needs vary across different types of service and products. To achieve true customer loyalty and enhance profitability loyalty program played significant role.

Bahri-Ammari (2012) wrote that the objectives of loyalty program comprise: making higher customer generated profits, selling more expensive, costs reduction and the free advertising by recommendation effect. Firms, through their loyalty tools, increase the number of purchased products and increase the duration of customer relationships causing to generate higher income. These techniques are also used for improving the cross selling. Loyal customers are also willing to pay more for the same product fearing contacts with unknown and cheaper competitors for them. Through promotion, loyalty programs, positively contribute to increase purchases and consumption and, relying on tools, aim to retain customers with high financial value. The more the customer retained by the company, the more the profits increase.

As loyalty programs cause the retention of customers, several researchers have expressed that a

5, percent retention of customers increases the profitability of the firm by 25- to 125 percent.

Their quantitative findings of studies are expressed in Table –1.

Table-1

Showing Effects of Customers Retention on Increase of Profit

Researcher Name	Percentage Increase in Customers Retention	Percentage Increases in Profits
Rigby et al (2003)	5	25-95

Yoo & Jae (2005)	5	25~85
Li & Green (n.d.)	5	25~85
Sondoh (2007)	5	25–95
Kuusik (2007)	5	60
Cheng et al (2011)	5	25~85
Wel et al (2011)	5	25~125
Tu et al. (2012)	5	25–75
Valenzuela (2012)	5	100

Source*- Self constructed from literature*

According to many researchers retention of customers through loyalty programs is a cheaper strategy. New customer acquiring is 5-10 times more expensive than retaining the customers. This is depicted in Table 2.

Table-2

Showing Cost of Acquiring new Customers as Compared to Customers Retention

Researcher Name	Benefit of Retention of old Customer as compared to new customer	Cost of acquiring new Customer compared to retaining old customer
Kuusik (2007)		6 - times
Cengiz & Yayla (2007)		5 - times
Tu et al. (2011)		5 - times
Cheng et al (2011)	-	5 to 9 times
Jandaghi et al (2011)		15 times
Azila and Noor (2011)		5- times
Razavi et al (2012)	10 – times cheaper	

Source*- Self constructed from literature*

Types of loyalty programs

Bagdonienė & Jakštaitė (2007) expressed that there is variety of loyalty programs in practice and Wijaya (2005) by extracting from literature described that many different names are given to loyalty programs, for example, it is called *Frequent Flyer Program* in the airline industry*;* while *Guest Frequent Program* in the hotel industry and in other industries, it is also named as *Fly Buys, Customer Club*, *Bonus Program*, *Customer Card,* and so forth. But, these different names are not differentiating one program from the others whereas benefits types offered by the programs are the key differentiators. In membership terms ***limited*** and ***open*** are of two types customer loyalty programs. Everybody cannot join a limited loyalty program rather a formal procedure is to be

adopted for membership of the program such as payment fees and sometimes also fulfilling a certain eligibility criteria such as minimum income and certain purchase volume. In an open loyalty program every individual can join and it usually does not have any application procedures or formal criteria.

Gudonaviciene & Rutelione (2009) citing of Debelak (2005) mentioned following six types of loyalty programs:

• **Evaluation** – providing products and services more than expectation

• **Discounts** – present money when customers purchase more

• **Partnership** – let to choose the award from other possible companies

• **Reward** – giving awards to customers; not linked with products or services of company,

• **Cooperation** – create long lasting relationships with customers based on mutual benefit and

• **Coalition** – be in link with other firms for sharing the information about customers and aiming new potential customers

Gudonaviciene & Rutelione (2009) further mentioned some other types of loyalty programs and referred Berman (2006) who grouped all functional customers' loyalty programs into following four main types.

Type I – Registered members get additional discounts

Type II – Members are rewarding with free products when they are purchasing the estimated amount of products

Type III – Members get points depending on purchases amount

Type IV– Members want to get offers and discounts only for them

Szűts & Tóth (2008) conducting study on programs offered by banks have listed following types of programs.

- ***Points programs:*** reward consumers for maintaining a product or service with the bank.

- ***Relationship packages:*** bundle products and services together and provide discounts or special pricing to consumers.

- ***Recognition programs:*** are commonly date based, acknowledging the longevity of customers' relationships with the bank or their personal milestones such as birthdays or anniversaries.

Jain & Singhal (2012) have mentioned following five types of loyalty programs.

1. **Rewards**: Award points for purchases. Points can be exchanged for rewards. This type of loyalty program is used when a company wants to capture new consumers and differentiate the brand from the competitors.

2. **Rebate**: Award a gift coupon redeemable for the next purchase, whenever the consumer reaches a certain spending or shopping level. When companies have a wide range of products then this reward

program can be used to motivate new incremental purchases.

3. **Appreciation:** Offer a rebate, not the cash then the result will be incremental visits and sales. In this type, consumers are offered with the appreciation reward of the same company.

Airlines, hotels, phone companies use this to accumulate points for additional services within their own brand like seat upgrades, free tickets, hotel stays at different locations, etc.

4. **Partnership:** Reward the consumer's accumulated purchases with a partner's products or services.

5. **Affinity:** An affinity program offers special communications; value added benefits and bonuses and recognition as a valued consumer. This is used where rewards are no longer needed to cultivate, a long-term relationship, just as a reminder to learn more about other products and services of companies. *Examples:* Bank's Debit cards, gold and silver debit cards.

Bagdonienė & Jakštaitė (2007) mentioned the results of research, of Weaver & Partners' who mentioned six types of loyalty programs: estimation, reward, partnership, discounts, collaboration and coalition.

According to Oracle Corporation (2005) most loyalty programs do not create for members high enough switching costs and companies use their loyalty programs for creating switching costs, by

   • Leveraging in-depth member profile and transaction data to create unique offers and product and services that a competitor, which does not know as much about the member, cannot match

   • Providing consistently targeted service across all channels

By using the personalized data from their loyalty program, companies create a win-win relationship with their members not easily replicated by their competitors.

Table -3

Showing **Types of Loyalty Programs Expressed by Different Researchers**

Wijaya (2005)	Bagdonienė & Jakštaitė (2007)	Szűts & Tóth (2008)	Gudonaviciene & Rutelione (2009)	Jain & Singhal (2012)
1-Limited Loyalty Program **2**-Oopen Loyalty Program	**1**-Eestimation, **2**-Rreward, **3**-Ppartnership, 4-Discounts, **5**-Collaboration **6**-Coalition	**1**-Points programs **2**- Recognition programs	**1**- Evaluation **2**- Reward **3**- Partnership **4**- Discounts **5**- Cooperation **6** - Coalition	**1**- Rewards **2**- Rebate **3**- Appreciation **4** Partnership **5**. Affinity

Source- Self constructed by squeezing from cited literature

Conclusion

From the above literature it can be concluded that loyalty programs lead to increase of

customers loyalty or customers retention casing more buying by existing customers due to

repeat purchase, existing customers refraining from switching because of switching costs,

convincing other for buying through words of mouth, consequently causing sale enhancement

and ultimately increasing the total revenue and profit. Some benefits are shown in the table – 4.

A conceptual diagram has also been drawn showing route of effects of loyalty programs.

Table -4

***Showing* Benefits of Loyalty Programs Expressed by Different Researchers**

Researcher's Name	Benefits Discovered
Oracle Corporation (2005	1 - gain detailed knowledge of customer with the customer's consent 2 improves customer retention rates, by increasing a switching costs
Wijaya (2005)	1- Hard benefits (*tangible benefits)* 2- Soft benefits (*intangible benefits)*
Jain & Singhal (2012)	1- Economic 2- Psychological 3- Sociological (By creating greater trust, commitment and development of long term relations) Creating emotional bond leading to high & irreversible switching costs
Gyulavári (2010)	1-i- Hard benefits ii- Soft benefits 2-i- Direct rewards ii-Indirect rewards and 3-i- Immediate benefits ii- Delayed benefits 4-i- Utilitarian, benefits ii-Hedonic benefits iii- Symbolic benefits

Source- Self constructed by squeezing from cited literature

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FLEXIBLE EXCHANGE RATE REGIME, CURRENCY

DEVALUATION TREND AND DIRECT INVESTMENT IN PAKISTAN

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Abstract

This study has empirically analyzed the depreciation trend of exchange rate in flexible regime and its implication for direct investment in Pakistan. The model of this study is based on Keynesian theory of investment determinants extended by Heim and incorporated exchange rate to the model. Using the time series annual data form 1976 to 2010 and following OLS, ADF and cointegraion techniques for empirical assessment, we find that exchange rate depreciation has adverse implication for investment, which demonstrates the fact that most of domestic industries are import dependant and depreciation of a domestic currency increases the prices of imported intermediate items and hence deteriorates domestic investment. All other remaining variables hold expected signs except indirect taxes, the positive sign between investment indirect taxes   show that indirect taxes reduce only consumer surplus and it doesn't affect producers surplus thus any increase in government spending followed by indirect taxes will not crowd out domestic investment.

Key words: exchange rate depreciation, investment, Error correction model

1. Introduction:

Exchange rate can play a significant role in macroeconomic stability and external sector adjustment. Pakistan has gone under different exchange rate systems; fixed exchange rate system prevailed till 1981 and thereafter diverted to manageable floating exchange rate system, which persist to 2000 and adopted floating exchange rate system after 17th July, 2000 (Kemal and Haider, 2005). Depreciation is a common phenomenon in all regimes; however devaluation acceleration is quite high in flexible exchange rate system, which affects different macroeconomic variables notably economic growth, investment, inflation and net exports. The immediate effect of devaluation is resulted in facing higher prices for imported items, and cheaper export commodities, which leads to external sector balance and therefore most of countries use exchange rate as a policy tool. However this could be possible if prevailing exchange rate regime is peg (fixed), because this regime will allow a country to set the value of exchange rate value at desirable level. In flexible exchange system the value of exchange is determined by demand and supply forces for US dollar ($).Nevertheless exchange rate can still be used as policy variable through monetary policy adjustment but has some limitation for growth and internal sector adjustment. The implication of exchange rate dynamics are varied in external and internal sector of the economy and exchange rate is like a two-edge sword and we can control one variable at the cost of other. For example we can correct current account deficit through exchange rate devaluation at the cost of higher prices for imported goods and general inflation in home country.

Exchange depreciation affects domestic investment in manifold, a high import contents of investment goods in most LDCs implies that the real cost of new capital goods will rise with a real depreciation and resulted in discouraging the direct investment (see Serven, 1990); Branson,1986 and Buffie ,1986). Devaluation of domestic currency has adverse impact on income, depresses aggregate demand and thus reduces firm's desire capacity (see Krugman and Taylor(1978) and Easterly, 1989). Money supply is generally considered responsible for inflation, however devaluation of domestic currency is also a factor responsible for higher prices in economy which also slowdown investment activities. Fiscal deficit may result of crowding out the domestic investment due to interest rate mechanism that left smaller amount of savings for business sector expansion, hence discourage domestic investment and Pakistan has also faced fiscal deficit for a long period. Taxes are another determinant of domestic investment; higher indirect taxes can harm consumer and producer surplus, decrease aggregate demand however tax burden depends upon demand and supply elasticities. A high governmental expenditure is also another factor responsible for crowding out the domestic investment because financing the budget deficit through domestic saving will left smaller amount of capital for investment, which consequently lead to squeeze the direct investment, budget deficit in Pakistan has varied between 5.4 to 8.7% of GDP during last two decades (Chaudhary and Shabbir, 2005). Alternatively; if fiscal deficit is financed via taxes; it will also harm the domestic investment, since indirect taxes are the large component of revenues and harm consumer and producer surplus, decreasing aggregate demand however the tax burden is primarily depends on depends upon demand and supply elasticities Maddala (2004).

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Since the large devaluations have been witnessed in flexible exchange regime therefore this study is trying to analyze the depreciation effect on direct investment in flexible exchange rate era. The paper is organized as section 2 holds brief review of literature; section 3 and 4 contain methodology and empirical results respectively, while section 5 is based on conclusion of the research.

2. Literature Review:

Large attempts have already been made on Exchange rate with investment, mostly these studies focus on volatility issues along with investment. Few of them are revisited here:

Darby et al (2000) examined exchange rate uncertainty and business sector investment for UK, Germany, France and USA. They find no significant effect from either volatility or misalignment for UK. Germany has also show significant negative impact of volatility in long run, although there is a temporary positive effect of misalignment. France and the US hold same results, and volatility has positive effects upon investment while misalignment has negative impact in both countries.

Bleaney and Greenaway (2001) show the impact of terms of trade and real exchange rate volatility on investment and growth in sub-Saharan Africa and concluded that real exchange rate volatility has a significant negative impact on investment and volatility in the terms of trade has also a negative impact on growth. Both growth and investment are examined higher when the terms of trade are more favorable and the real exchange rate is less overvalued. They further conclude that all countries have experienced considerable real exchange rate depreciation more than 4% p.a. on average. In the absence of any trend deterioration in the terms of trade, it is difficult to explain this real depreciation as an equilibrium adjustment.

Tease et al (1991) investigated impact of interest rate trend on investment and savings for 14 sub-Saharan African countries from 1980-1995 using penal data for analysis. They find Growth is affected negative by the term of trade, and similarly exchange rate instability has negative impact on investment. Term of trade and investment both are increasing when term of trade improves and real exchange rate overvalued.

Raddatz (2008) analyzed impact of exchange rate volatility impact on trade for South Africa using time series data and gravity equation model. He found no strong evidence of volatility impact on trade reducing aggregate exports and bilateral trade flows.

Aizenman, (1993) discussed exchange rate flexibility, volatility, and patterns of domestic and Foreign Direct Investment (FDI). His analysis suggests that nominal shocks in flexible exchange rate has negative impact on investment and encourage FDI. Similarly minimization of nominal shocks and volatility stem from money supply and money demand will stimulate investment.

Junajo and Javeed (1998) analyzed fix investment in Pakistan's agriculture sector and discussed the role of exogenous shocks and they came to an end that public policies in fiscal and monetary sector of the economy have a considerable positive impact on real investment. Secondly Autonomous shocks i.e, output growth shock, relative price shocks, export instability, real exchange rate, etc, affect private investment decision badly. Finally it may be asserted that price uncertainty and instability arising from macroeconomic reform reduces the credibility of investment incentives in short run and have significance negative effect on investment spending on private sector.

Baldwin and Krugman, (1986), investigated the large exchange rate shocks on trade. Their conclusion is based on following steps at first stage they developed model to reasonable microeconomics level, in second stage they specified macroeconomics linkages finally idea behind the practical importance regarding these model, which however is more complicated and cannot be captures via econometrics technique. To summarize their analysis need greater attention and extension, however came to an end that deprecation of dollar is not necessarily bad affect on economics variables   .

Goldberg and Campa (1998) assessed investment, pass-through, and exchange rates: through analyzing the cross-country comparison and their empirical findings show positive effect of home currency deprecation on investment and increases industry, volume of exports decrease imported input share in United States and Japan while across the countries exchange rate have weak or insignificant effect on investment. An import puzzle in this paper is the lack of response in exchange rate of investment.

3. Methodology

The data for the included variables are obtained from World Bank data base (online) and Pakistan economic survey (various issues). We are following Heim (2008) model however due to unavailability of data for some variables we try to incorporate their substitutes, the model holds following independent variables, taking investment as dependant variable.

$$INV = b_o + b_1GDP + b_2PSB + b_3DS + b_4EX + b_5TAX + b_6D + b_7DEX + E_t \ldots (1)$$

Where

INV = Investment

GDP = real GDP

PSB = Public Sector Browning

DS = Domestic Savings (Private + Government)

EX = real Exchange rate (Rs/US$)

TAX = Indirect Taxes

D = dummy variable; 1 for flexible exchange rate regime otherwise zero

DEX = interaction term; which is obtained form cross multiplication of D and EX, it is the proxy for depreciation in flexible exchange regime

ET = Error Term

bo, b1, b2, b3, b4, b5, b6   and b7 are the coefficients of the relevant variables

Above equation assumes the existence of a possible long-run relationship between Investment and five inputs Real GDP, public sector borrowing (PSB), real exchange rate (EX), Gross national Saving (DS) Indirect taxes (TAX), The flexible exchange dummy (D) and its interaction term (DEX) will hold a short run relationship in the model and will proceed to estimate this model in OLS framework for short analysis. The two variables; GDP and DS will have positive relationship while public sector borrowing (PSB), exchange rate (EX), Indirect taxes (TAX), flexible exchange regime dummy (D), and its interaction term (DEX) will have negative expected signs

Since we are using long period time series data, we will check the stationary properties of the data in order to avert the problem of spurious regression and unit root analysis will enable us to estimate the long run relationship. There for we must know that whether our variables are stationary or non-stationery and Augmented Dickey–Fuller (1981) test will use to test this hypothesis (H0), through following equation;

$$\Delta Y_t = \beta_0 + \beta_1 i + \lambda Y_{t-1} + \Sigma \beta_i Y_{t-i} + \varepsilon_t \dots (2)$$

This model test for λ using tau (τ) statistics or Mackinnon critical values, if the computed values exceed form critical value one may reject hypothesis of non–stationary, otherwise accept the null hypothesis. If all variable are integrated at order (I)1 we can proceed to estimate cointegration, we are using Johansen (1991, 1995) method for cointegration, which is preferred over Engel and Granger (1979) technique because Engel and Granger approach doesn't specify the cointegrating vector(s). Johansen test has two statistics one is maximal eigen value and other is trace statistics both are tested against their respective critical values. Akaike and Schwarz Bayesian Criterion will use for optimal lag selection.

4. Empirical results

Table -1 represents OLS, Table-2 shows ADF unit root estimations while Table-3 and 4 contain empirical results for Cointegration respectively. Microfit Version 05 is used for estimations.

Table -1
OLS estimations

Dependent variable is INV

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	44.00 11.240	.39153[.699]	
GDP	.22158	.17223 1.2865[.212]	
EX	-.7104.9	.483.9 -1.0958[.285]	
TAX	.58683 1.6548	.35461[.726]	
DS	.21934	.04280 5.1245[.000]	
PSB	-.54490	.20838 -2.6154[.016]	
D	-.61205	.50930 -.12017[.905]	
DEX	-2.3558	.59569 -3.9549[.001]	

R-Squared	.75176	R-Bar-Squared .69447
		F-Stat. F(6,26) 13.1228[.000]
DW-statistic 1.8798		

Table-1 shows OLS results, taking investment as a dependant variable, the result demonstrates the GDP, TAX and DS are positively related with investment and 0.22 million of real growth will increase one million investment. Similarly 0.58 million taxes (TAX) will increase each million investment and 0.21 million increase in domestic savings (DS) will positively contribute to each million of investment. GDP and TAX holds insignificant sings while DS has significant sings at 5 percent level. Public sector borrowing (PSB), Exchange rate (EX), Flexible exchange rate dummy (D) and its relevant interaction term have negative association with investment. The numerical

values suggest that each million of devaluation of exchange rate (EX) will tend to reduce the investment by 0.71 million, each million increase of public sector borrowing (PSB) reduces .54 investment. Similarly flexible exchange dummy reduces investment by 0.61. The interaction term for flexible exchange rate (DEX) regime reduces the investment by 2.35 million. EX and D holds insignificant signs while PSB and DEX has negative sings.

Overall the empirical findings suggest that exchange rate (integrally) adverse affects investment, the financial liberalization dummy and its iteration term also have negative influence and significant signs, which implies that exchange rate depreciation in flexible exchange rate regime leads decrease the investment. All other variables hold the expected sings except indirect taxes, the positive relations between TAX and INV implies that indirect taxes decrease consumer's surplus and doesn't affect producer surplus, which mean that most of tax burden is bared consumer. No autocorrelation is founded via using Durbin Watson (DW) tabulated lower and upper Durbin Valves, F-test shows significant joint effect of explanatory variables on dependant variable.

In order to overcome the problem of spurious regression we must make our data stationary. Table -2 shows AFD unite root test;

Table-2

ADF Unite root test:*

Variable integration	At level*	At First Difference*	conclusion	order
INV I(1)	-3.8322	-5.3116	Non stationary at level	
	(-2.9558)	(-2.9750)	Stationary at first difference	
GDP I(1)	-3.8775	-5.4178	Non stationary at lev	
	(-2.9558)	(-2.9750)	Stationary at first difference	
DS I(1)	-3.1795	-3.3512	Non stationary at lev	
	(-2.9558)	(-2.9750)	Stationary at first difference	
EX I(1)	-.4639	-3.9287	Non stationary at lev	
	(-2.9558)	(-2.7150)	Stationary at first difference	

PSB	-4.6469	-3.9287	Non stationary at lev
I(1)			
	(-2.9750)	(-2.450)	Stationary at first difference
TAX	-3.8987	3.3512	Non stationary at lev
I(1)			
	(-2.9558)	(-2.012)	Stationary at first difference

* The ADF values are computed with no intercept and no trend.

Augmented Ducky Fuller (ADF) results show all the variable are non stationary at level and became stationary at first difference. The next step is to perform Johansen cointegration test, table-2 holds Cointegration estimations;

Table-3*

Cointegration with no intercepts or trends in the VAR
Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Order of VAR = 1.

List of variables included in the cointegrating vector:

EX	TAX	GDP	DS	INV	PSB

List of eigenvalues in descending order:

.81027   .73440   .64611   .34330   .20800   .0012452

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	48.2032	36.2700	33.4800
r<= 1	r = 2	38.4471	29.9500	27.5700
r<= 2	r = 3	30.1242	23.9200	21.5800
r<= 3	r = 4	12.1954	17.6800	15.5700
r<= 4	r = 5	6.7626	11.0300	9.2800
r<= 5	r = 6	.036132	4.1600	3.0400

*Use the above table to determine r (the number of cointegrating vectors).

Table-4*

Cointegration with no intercepts or trends in the VAR

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Cointegration LR Test Based on Trace of the Stochastic Matrix

Order of VAR = 1.

List of variables included in the cointegrating vector:

EX	TAX	GDP	DS	INV	PSB

List of eigenvalues in descending order:

.81027   .73440   .64611   .34330   .20800   .0012452

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r>= 1		135.768	83.18
78.4700				
r<= 1	r>= 2		87.5655	59.33
55.4200				
r<= 2	r>= 3		49.1184	39.81
36.6900				
r<= 3	r>= 4		18.9941	24.05
21.4600				
r<= 4	r>= 5		6.7987	12.36
10.2500				
r<= 5	r = 6		.036132	4.16
3.0400				

*Use the above table to determine r (the number of cointegrating vectors).

Table -3 and 4 represents cointegration test values for maximal eigen and trace statistics and found 3 cointegrating vectors both in statistics.

5. Conclusion

This study has empirically examined real exchange rate depreciation trend in flexible exchange regime and its implication for direct investment in Pakistan, using time series data for period of 1976 to 2010. The study is based on Keynesian theory of determinants of investment and Him (1999) incorporated exchange rate in this model. Taking   investment as dependant variable and domestic saving (DS), real exchange rate (EX), indirect taxes(TAX), public sector borrowing (PSB), flexible exchange rate regime dummy (D) and its interaction term (DEX), as independent variables. Employing multiple regression analysis followed by ADF unit root test and cointegration we find that key indicators of exchange rate in general (EX, D, DEX) has negatively effected the investment in Pakistan but with insignificant sings however relationship between DEX and investment is relatively more straight forward and significant, which implies that exchange rate depreciation in flexible exchange rate regime has strongly influencing the domestic investment activities and if the current trend continues it will ultimately lead to a large declination in investment sector. Indeed most of domestic industries are import depended; depreciation makes expensive the imported intermediated goods which deteriorate the domestic investment. All the remaining variables hold the

expected sign except indirect taxes; the negative sign of indirect taxes with investment show the fact that most of indirect taxes are resulted in loss of consumer surplus rather than investor loss and government expenditures finance through indirect taxes will not crowd out the domestic investment.

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Asset Liability Management of a Commercial Bank- A Study on Prime Bank Limited

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Abstract

Asset Liability Management (ALM) is the core part of the bank with the intention to reduce the risk of the bank and maximizing total revenue. This paper concentrates on the asset (uses of funds) and liabilities (sources of funds) management process of Prime Bank Limited (PBL) and the process of managing different risk of the bank. The main process of ALM is to manage the liquidity risk and the market risks (including Interest Rate Risk). We have evaluated some previous performance through ratio analysis and shown graphically the trend of the position of the bank. There is an ALM committee at PBL who manages the asset and liability strategy of the bank and give the high security against the risk. Then we have found some problems and prospect of the ALM strategy of PBL and provided some suggestions or directions to improve ALM process of the bank. As ALM is the main or core part of the balance sheet of the bank so this paper will help to generate the idea about the ALM process of the banking sector in Bangladesh.

Keywords: ALM Process, Assets Liability Management, ALCO, Bank Management in Bangladesh, GAP Analysis.

JEL Code: G21, G32, G33

1.0 Introduction:

ALM is a comprehensive and dynamic framework for measuring, monitoring and managing the market risk of a bank. It is the management of structure of balance sheet (liabilities and assets) in such a way that the net earnings from interest is maximized within the overall risk-preference (present and future) of the institutions (Gardner and Mills, 1991). The ALM functions extend to liquidly risk management, management of market risk, trading risk management, funding and capital planning and profit planning and growth projection. The purpose of ALM is to enhance the asset quality, quantify the risks associated with the assets and liabilities and further manage them, in order to stabilize the short-term profits, the long-term earnings and the long-run sustenance of the bank Dash (2010).

In banking, asset and liability management is the practice of managing risks that arise due to mismatches between the assets and liabilities (debts and assets) of the bank. This can also be seen in insurance. Banks face several risks such as the liquidity risk, interest rate risk, credit risk and operational risk. Asset Liability management (ALM) is a strategic management tool to manage interest rate risk and liquidity risk faced by banks, other financial services companies and corporations (Haslem et al, 1999). Modern risk management now takes place from an integrated approach to enterprise risk management that reflects the fact that interest rate risk, credit risk, market risk, and liquidity risk are all interrelated (Ranjan and Nallari, 2004).

Benefits of ALM (Dash and Pathak, 2011) - It is a tool that enables bank managements to take business decisions in a more informed framework with an eye on the risks that bank is exposed to. It

is an integrated approach to financial management, requiring simultaneous decisions about the types of amounts of financial assets and liabilities - both mix and volume - with the complexities of the financial markets in which the institution operates.

Therefore, ALM is considered as an important tool for monitoring, measuring and managing the market risk of a bank (Vaidyanathan, 1999).   With the deregulation of interest regime in India, the Banking industry has been exposed to the market risks (Vaidya and Shahi, 2001).   To manage such risks, ALM is used so that the management is able to assess the risks and cover some of these by taking appropriate decisions.

The assets and liabilities of the bank's balance sheet are nothing but future cash inflows or outflows. With a view to measure the liquidity and interest rate risk, banks use of maturity ladder and then calculate cumulative surplus or deficit of funds in different time slots on the basis of statutory reserve cycle, which are termed as time buckets.

1.1 Asset Liability Management Policy

Asset Liability Management (ALM) is an integral part of Bank Management (Vaidyanathan, 1995); and so, it is essential to have a structured and systematic process for manage the Balance Sheet. Banks must have a committee comprising of the senior management of the bank to make important decisions related to the Balance Sheet of the Bank. The committee, typically called the Asset Liability Committee (ALCO), should meet at least once every month to analysis, review and formulate strategy to manage the balance sheet.

The Asset Liability Committee (ALCO), comprising of the senior management of a bank, is primarily responsible for Balance Sheet Management or more specifically Balance Sheet Risk Management. In every ALCO meeting, the key points of the discussion should be taken and the action points should be highlighted to better position the bank's balance sheet. In every ALCO meeting, action points taken in the past ALCO meeting should be reviewed to ensure implementation.

1.2 Specific Functions of ALCO are:

- To receive and review reports on liquidity risk, market risk and capital management as covered in this report.

- To identify balance sheet management issues like balance sheet gaps, interest rate gap/profiles etc. that are leading to under-performance.

- To review deposit-pricing strategy for the local market.

- Review liquidity contingency plan for the bank.

1.3 Policy Statement for ALM

Board or Management Committee of the Bank should set out the policy statement in at least for the followings and an annual review should be done taking into consideration of changes in the balance sheet and market dynamics.

- **Loan Deposit Ratio (LD):** The AD ratio should be 80%-85%. However, the Loan Deposit ratio of the bank should go up to 110%. The Loan Deposit ratio = Loan/ (Deposit + Capital + Funded Reserve) the ratio will be fixed based on the bank's capital, Bank's reputation in the market and overall depth of the money market.

- **Wholesale Borrowing Guidelines (WBG):** The guideline should be set in absolute amount depending on bank's borrowing capacity, historic market liquidity. The limit should be capped at the bank's highest level of past borrowings. However, this limit can be increased based on the match funding basis.

- **Commitments:** The commitments Guideline limits should not exceed 200% of the unused wholesale borrowing capacity of the last twelve months. The limit can be increased if there are natural limitations on customer discretion to draw against committed lines or a bank's access to additional funds via realization of surplus statutory holdings.

- **Medium Term Funding Ratio (MTF):** The MTF of a bank should not be less than 30%. The ideal scenario should be 45%. Given, the overall scenario of current market, it will be suitable to move towards the MTF limit of 45% as we progress.

- **Maximum Cumulative Outflow:** MCO up to 1 month bucket should not exceed 20% of the balance sheet.

- **Liquidity Contingency Plan:** A liquidity contingency plan needs to be approved by the board. A contingency plan needs to be prepared keeping in mind that enough liquidity is available to meet the fund requirements in liquidity crisis situation. An annual review of the contingency planning should be made.

- **Local Regulatory Compliance:** There should be a firm policy on compliance to the Bangladesh Bank in respect of CRR, SLR, Capital adequacy etc.

1.4: Organizational Structure of ALM

The Asset Liability Committee (ALCO) is responsible for balance sheet (asset liability) risk management. Managing the asset liability is the most important responsibility of a bank as it runs the risks for not only the bank, but also the thousands of depositors who put money into it. The responsibility of Asset liability Management is on the *Treasury Department* of the bank. Specifically, the Asset liability Management (ALM) desk of the Treasury Department manages the balance sheet. The results of balance sheet analysis along with recommendation is placed in the ALCO meeting by the Treasurer where important decisions are made to minimize risk and maximize returns. Typically, the organizational structure looks like the following:

Figure 1: Structure of ALM

The Key Roles and Responsibilities of the ALM Desk:

- To assume overall responsibilities of Money Market activities.

- To manage liquidity and interest rate risk of the bank.

- To comply with the local central bank regulations in respect of bank's statutory obligations as well as thorough understanding of the risk elements involved with the business.

- Understanding of the market dynamics i.e competition, potential target markets etc.

- Provide inputs to the treasurer regarding market views and update the balance sheet movement.

- Deal within the dealer's authorized limit.

1.5: The ALCO Committee

As the Treasury Department is primarily responsible for Asset Liability Management, ideally the Treasurer (or the CEO) is the Chairman of the ALCO committee. The Prime Bank has ALCO committee to manage the ALM process. The committee consists of the following key personnel of a bank:

- Chief Executive Officer / MD

- Head of Treasury / Central Accounts Department.

- Head of Finance

- Head of Corporate Banking

- Head of Consumer Banking

- Head of Credit

- Head of Operations

1.6: The ALCO Process

In the Prime Bank the ALCO process or the ALCO meeting reviews the ALCO paper along with the prescribed agendas. The Chairman of the committee, that is the Treasurer or the CEO, raises issues related to the balance sheet. Treasurer suggests whether the interest rates need to be reprised, whether the bank needs deposits or advance growth, whether growth of deposits and advances should be on short or longer term, what would be the transfer price of funds among the divisions,

what kind of interbank dependency the bank should have etc. In short, all issues related to liquidity and market risk are covered. Based on the analysis and views of the Treasurer, the committee takes decisions to reduce balance sheet risk while maximizing profits.

1.7: Key Action Points of ALCO

The ALCO takes decisions for implementation of any/all of the following issues:

- Need for appropriate Deposit mobilization or Asset growth in right buckets to optimize asset-liability mismatch.

- Cash flow (long/short) plan based on market interest rates and liquidity.

- Need for change in Fund Transfer Pricing (FTP) &/or customer rates in line with strategy adapted.

- Address to the limits that are in breach (if any) or are in line of breach and provide detailed plan to bring all limits under control.

- Address to all regulatory issues that are under threat to non-compliance.

2.0 Literature Review

There is a considerable literature addressing asset-liability management in banks. One of the key motivators of asset-liability management worldwide was the Basel Committee. The Basel Committee on Banking Supervision (2001) formulated broad supervisory standards and guidelines and recommended statements of best practice in banking supervision. The purpose of the committee was to encourage global convergence toward common approaches and standards.

In particular, the Basel II norms (2004) were proposed as an international standard for the amount of capital that banks need to set aside to guard against the types financial and operational risks they face. Basel II proposed setting up rigorous risk and capital management requirements designed to ensure that a bank holds capital reserves appropriate to the risk the bank exposes itself to through its

lending and investment practices. Generally speaking, these rules mean that the greater risk to which the bank is exposed, the greater the amount of capital the bank needs to hold to safeguard its solvency and overall economic stability. This would ultimately help protect the international financial system from the types of problems that might arise should a major bank or a series of banks collapse.

Gardner and Mills (1991) discussed the principles of asset-liability management as a part of banks' strategic planning and as a response to the changing environment in prudential supervision, e-commerce and new taxation treaties. Their text provided the foundation of subsequent discussion on asset-liability management.

Haslem et al (1999) used canonical analysis and the interpretive framework of asset/liability management in order to identify and interpret the foreign and domestic balance sheet strategies of large U.S. banks in the context of the "crisis in lending to LDCs." Their study found that the least profitable very large banks have the largest proportions of foreign loans, yet they emphasize domestic balance sheet (asset/liability) matching strategies. Conversely, the most profitable very large banks have the smallest proportions of foreign loans, but, nonetheless, they emphasize foreign balance sheet matching strategies.

Vaidyanathan (1999) discussed issues in asset-liability management and elaborates on various categories of risk that require to be managed in the Indian context. In the past Indian banks were primarily concerned about adhering to statutory liquidity ratio norms; but in the changed situation, namely moving away from administered interest rate structure to market determined rates, it became important for banks to equip themselves with some of these techniques, in order to immunize themselves against interest rate risk.

Vaidyanathan argues that the problem gets accentuated in the context of change in the main liability structure of the banks, namely the maturity period for term deposits. For instance, in 1986, nearly 50% of term deposits had a maturity period of more than five years and only 20%, less than two

years for all commercial banks, while in 1992, only 17% of term deposits were more than five years whereas 38% were less than two years (Vaidyanathan, 1995). He found that several banks had inadequate and inefficient management systems. Also, he argued that Indian banks were more exposed to international markets, especially with respect to FOREX transactions, so that asset-liability management was essential, as it would

Ranjan and Nallari (2004) used canonical analysis to examine asset-liability management in Indian banks in the period 1992-2004. They found that SBI and associates had the best asset-liability management in the period 1992-2004. They also found that, other than foreign banks, all other banks could be said to be liability-managed; i.e. they all borrowed from the money market to meet their maturing obligations. Private sector banks were found to be aggressive in profit generation, while nationalized banks were found to be excessively concerned about liquidity.

Dash and Pathak (2011) proposed a linear model for asset-liability assessment. They found that public sector banks have best asset-liability management positions, maintaining profitability, satisfying the liquidity constraints, and reducing interest rate risk exposure.

The present study analyses asset-liability management and the risk management in Prime Bank Limited. Here we have tried to identify the ALM of Prime Bank and the risk management process, and then we have given found some process of managing the risk and asset and liability management.

At the macro-level, ALM leads to the formulation of critical business policies, efficient allocation of capital, and designing of products with appropriate pricing strategies, while at the micro-level, the objective of the ALM is two-fold: it aims at profitability through price matching while ensuring liquidity by means of maturity matching.

3.0 Methodology

For this case analysis we have selected Prime Bank Limited (PBL) to analyze the asset-liability management (ALM) process. We have tried to find out the information from the personnel of the bank, annual report and different journals. We have selected the 2006 to 2010 data for showing the performance of the bank and followed the annual report of 2010 for the purpose of identifying ALM strategy. We have categorized the maturity analysis by below 1 year, 1-5 years and above 5 years. We also categorized the interest rate risk by 1-90days , over 3 month to up to 6 month, over 6 month to up to 9 month, over 9 month to up to 1 year so see the rate sensitive assets and rate sensitive liability of the bank.

4.0 Organizational Overview

4.1 About the Prime Bank Limited (PBL)

PBL was incorporated as a public limited company in Bangladesh under Companies Act, 1994. It commenced its banking business with one branch from April 17, 1995 under the license issued by Bangladesh Bank. Presently the Bank has 94 branches, 14 SME Centre all over Bangladesh, and 2 booths located at Dhaka Club, Dhaka and at Chittagong Port, Chittagong. The Bank had no overseas branches as at 31 December 2010. Out of the above 94 branches, 05 branches are designated as Islamic Banking Branch complying with the rules of Islamic Shariah, the modus operandi of which is substantially different from other branches run on conventional basis. The Bank went for Initial Public Offering in 1999 and its share is listed with Dhaka Stock Exchange Limited and Chittagong Stock Exchange Limited as a publicly traded company for its general class of shares. It was listed with Dhaka Stock Exchange & Chittagong Stock Exchange in 1999 through initial public offering (IPO).

The bank offers all kinds of Commercial Corporate and Personal Banking services covering all segments of society within the framework of Banking Company Act and rules and regulations laid down by our central bank. PBL offers:

- Commercial, Corporate and Personal Banking Services,

- Corporate Banking, Retail Banking,

- Consumer Banking,

- Islamic Banking.

4.2 Previous performance of PBL

Total Assets: The total assets of the bank has steadily increased from 2006 (Tk. 60,899 million) to 2010 (Tk. 152,797 million), achieving 30.69% and 38.76% growth of assets in 2007 and 2008 consecutively. The growth rate was deliberated in 2009 (13.01%) than any of the previous year which is stood to 22.43% in 2010. In short, the total assets increased at 150.9% growth rate in 2010 comparing to 2006.

Net Current Assets: In this graph the year 2006 was projected with 5,286 million taka net current assets which increased in the following year to be 1,338 million taka. In increased up to 9,962 million taka in the year 2008, this was moved on to 3,435 million in the following year. Finally in the year 2010 it became 7,349 million taka.

Current Ratio: In this graph the year 2006 was projected with the amount of 1.13% of current ratio which decreased in the following year to be 1.03%. It again increased up to 1.14% in the year 2008, which moved on to a lower number of 1.05% in the following year. Finally in the year 2010 it became 1.09%.

Equity debt ratio: In this graph the year 2006 was projected with a 7% in the equity debt ratio. It stayed the same in the following year. Decreased down to 6.45% in the year 2008 and moved upwards in 2009 with 10.39%. Finally in the year 2010 it became 12.33%.

Capital Adequacy Ratio: In this graph the core capital ratio is shown in the color blue, supplementary capital ratio was presented in red and total capital adequacy ratio was presented in yellow. In the year of 2009 core capital ratio was 10.95%, which decreased to the point of 8.6% in the following year. The supplementary capital ratio was 3.76% in the year 2009 which decreased 0.66% in the year 2010. Total capital adequacy was 14.71% in 2009, which decreased and became 11.69% in 2010.

5.0 Present ALM Status in PBL

Maturity Analysis

The liquidity policy of the bank has always been to carry a positive mismatch in the interest earning assets and interest bearing liabilities in the 1 to 30 days category. The liquidity remained at optimum levels during the year. The liquid assets ratio stood at 25.76% (required 19% of total demand & time deposits) in December 2010. The assets and liabilities committee (ALCO) of the bank monitors the situation and maintains a satisfactory trade-off between liquidity and profitability.

Table 1: Maturity Analysis

(Taka in Millions)	Below 1 year	1-5 years	Above 5 years	Total
Interest earning assets	84,757	28,467	19,464	132,688
Non-interest earning assets	8,203	1,450	10,457	20,109
Total assets	92,959	29,917	29,921	152,797
Interest bearing liabilities	60,016	23,840	20,511	104,367
Non-interest bearing liabilities	25,595	998	5,068	31,661
Total liabilities	85,611	24,839	25,579	136,028
Maturity Gap	7,349	5,078	4,342	16,769
Cumulative Gap	7,349	12,427	16,769	

Source: Annual Report of PBL 2010

The maturity analysis graph shows the situation of liquidity of five years, if we look at the maturity analysis graph then we can see the bank holds more assets which will mature within 1 year comparing to 1 to 5 year's assets. The PBL has higher interest earning assets then interest earning liability at each period except the assets which will mature after 5 years. In total the bank has Tk.

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132,688 million interest bearing assets in contest of Tk. 104,375 millions of interest bearing liability, which show the bank holds high liquidity for escaping the any liquidity risk. The bank has Tk. 92,959 million current assets against which then kept Tk. 85,611 million total liability to be safe from liquidity crisis.

Liquidity Risk Management

The object of liquidity risk management is to ensure that all foreseeable funding commitments and deposit withdrawals can be met when due. To this end, the Bank is maintaining a diversified and stable funding base comprising of core retail and corporate deposits and institutional balance. Management of liquidity and funding is carried out by Treasury Department under approved policy guidelines. Treasury front office is supported by a very structured Mid-office and Back office. The Liquidity management is monitored by Asset Liability Committee (ALCO) on a regular basis. A written contingency plan is in place to manage extreme situation.

Liquidity	Required (%)	Maintained (%)
Cash Reserve Requirement (CRR)	6	6.64
Statutory Liquidity Ratio (SLR)	19	25.67

Table 1: Liquidity Statement

Liquidity Statement

- From the liquidity statement it transpires that the cumulative gap is positive and pressure from liquidity is minimal. In order to meet the withdrawal demand Bank maintained adequate liquid assets as per regulation.

- The issuance of subordinated bond and injection of right share proceeds with premium significantly helped the bank to maintain sufficient liquidity. Following CRR and SLR ratio was maintained as against the regulatory requirement:

Liquidity risk is the risk to a bank's earnings and capital arising from its inability to timely meet obligations when they come due without incurring unacceptable losses. The liquidity risk of banks arises from funding long term assets by short-term liabilities.

Liquidity risk in banks manifest in different directions:

- **Funding risk** arises from the need to replace net outflows due to unanticipated withdrawal/non-renewal of deposits.

- **Time Risk** arises from the need to compensate for no receipt of expected inflows of funds i.e., performing assets turning into non-performing assets.

- **Call Risk** arises due to crystallization of contingent liabilities. This may also arise when a bank is not able to undertake profitable business opportunities when it arises.

To this end, PBL maintains diversified and stable funding base comprising of core retail, corporate and institutional deposits. It maintained sufficient liquid assets for meeting the funding requirements.

The principle responsibility of the liquidity risk management of the bank rests with Treasury Division. Treasury Division maintains liquidity based on historical requirements, current liquidity position, anticipated future funding requirement, sources of fund, options for reducing funding needs, present and anticipated asset quality, present and future earning capacity, present and planned capital position.

ALCO monitors the liquidity management of Treasury by

- Setting tolerance limit for cumulative cash flow mismatches,

- Setting limit on loan to deposit ratio,

- Setting limits on dependence on institutional deposits which are volatile in nature.

From the liquidity statement it can be seen that out of total deposit liabilities of Tk. 124,519 million, contractual maturity of liability within 1 year is Tk. 85,611 million. In the liquidity statement it

transpires that there is moderate positive gap in each maturity buckets. So the cumulative gap is positive and pressure from liquidity is minimal.

Table 3: Interest Rate Risk (Market Risk) Analysis

(For 1% change in market rate of interest)

Taka in million

Source: Prime Bank Limited Annual Report 2010

The main objective of the ALM process is to manage volatility of interest rate changes so the ALM committee attempts to find out the profound policy for interest rate risk management. The banking industry in Bangladesh has substantially more issues associated with interest rate risk, which is due to circumstances outside its control. This poses extra challenges to the banking sector and to that extent; they have to adopt innovative and sophisticated techniques to meet some of these challenges. There are certain measures available to measure interest rate risk. These include (Vaidyanathan, 1999):

- *Maturity*: Since it takes into account only the timing of the final principal payment, maturity is considered as an approximate measure of risk and in a sense does not quantify risk. Longer maturity bonds are generally subject to more interest rate risk than shorter maturity bonds.

- **Duration:** Is the weighted average time of all cash flows, with weights being the present values of cash flows. Duration can again be used to determine the sensitivity of prices to changes in interest rates. It represents the percentage change in value in response to changes in interest rates.

- **Dollar Duration:** Represents the actual dollar change in the market value of a holding of the bond in response to a percentage change in rates.

- **Convexity:** Because of a change in market rates and because of passage of time, duration may not remain constant. With each successive basis point movement downward, bond

prices increase at an increasing rate. Similarly if rates increase, the rate of decline of bond prices declines. This property is called convexity.

The function of ALM is not just protection from risk. The safety achieved through ALM also opens up opportunities for enhancing net worth. Interest rate risk (IRR) largely poses a problem to a bank's net interest income and hence profitability. Changes in interest rates can significantly alter a bank's net interest income (NII), depending on the extent of mismatch between the asset and liability interest rate reset times. Changes in interest rates also affect the market value of a bank's equity. Methods of managing IRR first require a bank to specify goals for either the book value or the market value of NII. In the former case, the focus will be on the current value of NII and in the latter, the focus will be on the market value of equity. In either case, though, the bank has to measure the risk exposure and formulate strategies to minimize or mitigate risk.

Table 4: Interest rate sensitivity and GAP management:

Sl. No.	Type of GAP	Change in Interest Rates (Δr)	Change in Net Interest Income (ΔNII)
1	RSA = RSLs	Increase	No change
2	RSA = RSLs	Decrease	No change
3	RSAs $\geq$ RSLs	Increase	NII increases
4	RSAs $\geq$ RSLs	Decrease	NII decreases
5	RSAs $\leq$ RSLs	Increase	NII decreases
6	RSAs $\leq$ RSLs	Decrease	NII increases

This model measures the direction and extent of asset-liability mismatch through a funding or maturity GAP (or, simply, GAP). Assets and liabilities are grouped in this method into time buckets according to maturity or the time until the first possible resetting of interest rates. For each time bucket the GAP equals the difference between the interest rate sensitive assets (RSAs) and the interest rate sensitive liabilities (RSLs).

The Gap is the difference between Rate Sensitive Assets (RSA) and Rate Sensitive Liabilities (RSL) for each time bucket. The positive Gap indicates that it has more RSAs than RSLs whereas the

negative Gap indicates that it has more RSLs. The Gap reports indicate whether the institution is in a position to benefit from rising interest rates by having a positive Gap (RSA > RSL) or whether it is in a position to benefit from declining interest rates by a negative Gap (RSL > RSA). The Gap can, therefore, be used as a measure of interest rate sensitivity.

The Gap Report should be generated by grouping rate sensitive liabilities, assets and off-balance sheet positions into time buckets according to residual maturity or next reprising period, whichever is earlier. The Gaps may be identified in the following time buckets:

    i) Upto 1 month
    ii) Over one month and upto 3 months
    iii) Over 3 months and upto 6 months
    iv) Over 6 months and upto 12 months
    v) Over 1 year and upto 3 years
    vi) Over 3 years and upto 5 years
    vii) Over 5 years
    viii) Non-sensitive

In symbols: GAP = RSAs – RSLs

When interest rates change Δr, the bank's NII changes (ΔNII) based on the following interrelationships:

$\Delta NII = (RSAs - RSLs) \times \Delta r$

$\Delta NII = GAP \times \Delta r$

A zero GAP will be the best choice either if the bank is unable to speculate interest rates accurately or if its capacity to absorb risk is close to zero. With a zero GAP, the bank is fully protected against both increases and decreases in interest rates as its NII will not change in both cases.

6. Findings

- From the liquidity statement it can be seen that out of total deposit liabilities of Tk. 124,519 million, contractual maturity of liability within 1 year is Tk. 85,611 million. In the liquidity

statement it transpires that there is moderate positive gap in each maturity buckets. So the cumulative gap is positive and pressure from liquidity is minimal.

- The bank has consolidated capital adequacy ratio of 11.69 percent as against the minimum regulatory requirement of 9 percent. Tier-I capital adequacy ratio is 8.60 percent against the minimum regulatory requirement of 5 percent. The bank's policy is to manage and maintain its capital with the objective of maintaining strong capital ratio and high rating.

- Management of liquidity and funding is carried out by Treasury Department under approved policy guidelines. The Liquidity management is monitored by Asset Liability Committee (ALCO) on a regular basis. The principle responsibility of the liquidity risk management of the bank rests with Treasury Division.

- The liquid assets ratio stood at 25.76% (required 19% of total demand & time deposits) in December 2010. The assets and liabilities committee (ALCO) of the bank monitors the situation and maintains a satisfactory trade-off between liquidity and profitability.

- Bank maintained very high amount of total risk weighted asset which was Tk. 183,747 million in 2010. So the bank is being very much careful about the risk of the future and they are trying to be very secured bank.

- Prime Bank has more short term interest earning asset but for the long term this is an important issue for the bank because the long term earning asset will ensure the smooth profitability of the bank.

- PBL's nonperforming loan ratio reduced further to 1.23 percent as at the end of 2010, as compared to 1.29 percent as at the end of 2009, which is significantly lower than the Bangladesh banking industry's non-performing loan ratio of 9.20 percent.

- PBL maintains diversified and stable funding base comprising of core retail, corporate and institutional deposits. It maintained sufficient liquid assets for meeting the funding requirements.

- The PBL was able to make pre-tax profit of BDT 6.47 billion in 2010, on the back of a strong 90 percent growth in net interest and financing income.

7. Suggestions

- The bank's policy is to manage and maintain its capital with the objective of maintaining strong capital ratio and high rating though this will give more security to the bank but this will turn to lower profitability so the bank should make the adequate policy towards managing the adequate capital and maximizing the profits.

- At Prime Bank the liquidity management is monitored by Asset Liability Committee (ALCO) on a regular basis. The principle responsibility of the liquidity risk management of the bank rests with Treasury Division but the ALCO committee should give some mode attention to the liquidity risk as like the present goal of the global banks.

- As the liquid assets ratio decreased to 25.76% in 2010 from 27.67% in 2009 so this should be carefully management to make a smooth liquidity flow of the bank so that the bank can pay obligations anytime when arise.

- As Prime Bank maintained very high amount of total risk weighted asset which was Taka 183, 747 million so this might lower the sources of profitability of the bank. To ensure the highest profitability and net interest earning bank should try to avoid risk and manage the risk with lowest cost of capital.

- Though the Prime Bank was able to lower the nonperforming loan ratio to 1.23 percent as at the end of 2010, as compared to 1.29 percent as at the end of 2009 but they should make it lowest as much as possible to the bank can perform well in the future.

- Presently PBL maintains diversified and stable funding base comprising of core retail, corporate and institutional deposits but they should try to invest more diversified business especially in the long term loan or capital sector.

8. Conclusion

Overall analysis of the bank leads to the conclusion that bank is performing at satisfactory level and managing the ALM process with competitive strategy. The Prime Bank is, undoubtedly, one of the best modern banks in Bangladesh with managing asset liability with best policy. To keep competitive advantage over its existing and potential competitors bank is trying to introduce latest techniques on ALM process and risk management strategy. The customers of the bank are increasing every year because of lower risk and highly liquid bank.

The impact of global slowdown on Bangladesh economy turned out to be relatively moderate and short lived because of limited, regulated external exposure keeping the financial sector free from toxic assets and contagion. The real GDP growth has been projected to be 6.7 percent in FY11 (forecasted by ADB to be 6.1 percent). The economy is expected to achieve the growth target for FY11 and also leap forward to growth performance well beyond 7.0 percent in FY12 following faster global economic recovery together with investment plan implementing initiatives including Public Private Partnership (PPP). The monetary policy is assumed to remain supportive for the development requirement of the economy. Policy support will be directed towards adequate credit flows towards all productive but under-served and un-served sectors especially in agriculture sector, SMEs, women entrepreneurs, housing (particularly for lower income group), renewable energy and effluent treatment projects. In these initiatives innovative partnerships between banks, microfinance

institutions, mobile phone and smart card based IT platforms for efficient and cost effective customer service will be continued to be encouraged and supported. Banks would be pursued by Bangladesh Bank to reduce interest spread and improve managerial efficiency by reducing the burden of non-performing loans.

During its short life of operation the bank has achieved many awards not only with in Bangladesh but also from outside the Bangladesh for managing bank with good strategy.

So I easily without any qualm can conclude that;

"The Prime Bank is going exactly on the way of development and progression"

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A Comparative Financial Performance Analysis of Bangladeshi Private Commercial Banks

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Abstract

The ratio analysis is considered as a simple and preferable way to understand the financial performance of a financial organization. We have chosen top two operating profit generating banks from each of the three generation of banking in Bangladesh to compare the financial performance from 2005 to 2008 with Prime Bank Limited (PBL). For analyzing we have used the profitability ratios, liquidity ratios and efficiency ratios, risk measures ratio and DuPont analysis. The measurement explores that the PBL performance is best among the five others bank. In terms of profitability PBL was successful bank where performance of Jamuna Bank Limited was not satisfactory. The liquidity position of PBL was high and the bank management tries to keep the bank from liquidity crisis by prudent policy. Some theoretical suggestions are also given for the improvement of the PBL.

1.0: Introduction

In Bangladesh, the banking sector dominates the financial sector and it contributes to economic growth by efficiently allocating investment funds among competing alternative uses, by raising the rate of capital formation by separating the act of saving from the act of investment, as well as by providing incentives for increased savings and investment (Khan, Ahmed & Latif, 1993). The overall performance of bank does not merely depend upon the banking industry itself but also on the performance of economy wherever it is operating. The banking sector in Bangladesh is disparate from the banking sector as seen in developed countries. This is one of the foremost service sectors in Bangladesh economy.

Banking is one of the most sensitive businesses all over the world. Banks play an important role in the economy and are considered as the backbone of an economy in every country and Bangladesh is no exemption. Banks are custodian to the assets of the general masses. The banking sector plays a significant role in a contemporary world of money and economy. It influences and facilitates many different but integrated economic activities like resources mobilization, poverty elimination, production and distribution of public finance.

A bank's balance sheet and income statement are valuable information sources for identifying risk taking and assessing risk management effectiveness. Although the taka amounts found on these statements provide valuable insights into the performance and condition of a bank, financial analysts, bankers and bank supervisors typically use data from them to develop financial ratios to evaluate bank performance. This is done to provide perspective and facilitate making comparisons. There are literally hundreds of useful financial ratios we can use to evaluate bank's performance. However, in most instances, directors only need a few basic ratios to identify fundamental performance issues and help them formulate questions regarding any underlying problems and asking management's plans for correcting them. This section will discuss some selected ratios from various perspectives.

Financial institutions are the key players in financial markets because they serve as intermediaries that determine the flow of funds. This paper evaluates the financial performance of top 6 commercial Banks, which provides a conceptual frame work that can be used to understand the financial position of each bank. It will also help each bank to create the rooms for comparing the other financial institution in Bangladesh.

In Bangladesh 48 Banks are operating in full swing. Prime Bank Ltd has a 14 year's history of operation. From 1995 it is working very successfully till now. Now it is one of the leading banking organizations in this industry.

To conduct the analysis we have selected top 6 private commercial banks by choosing 2 from each generation of banking of Bangladesh. It will be a comparative financial analysis of selected banks with Prime Bank Limited, which will help to know the comparative position of the Prime Bank Limited (PBL).

Under this analysis following ratios are considered:

- *Profitability Ratio*
- *Liquidity Ratio*
- *Risk Measurement Ratio*
- *DuPont Analysis.*

These ratios are computed and illustrated in this paper comparing performance of Prime Bank with others six banks.

Ratio as a Measurement of Financial Performance

Financial ratios express relationships between financial statement items. Although they provide historical data, management can use ratios to identify internal strengths and weaknesses, and estimate future financial performance. Investors can use ratios to compare companies in the same industry. Ratios are not generally meaningful as standalone numbers, but they are meaningful when compared to historical data and industry averages.

Financial Performance Ratios is used to depict the performance of a business. These ratios are derived from the items of a financial statement. To derive a financial ratio, one variable of the financial statement is divided by the other. It illustrates the relationship between two financial variables. A financial ratio is an important tool for small business firms and managers to measure the progress for achieving the targeted goals.

Financial Analysis is the summarizing of large quantities of financial data for the purpose of evaluation and comparison of performance of a company over time, it's more or less the process of reducing a large amount of historical financial data, taken from financial accounting statements, to a smaller set of information more useful for decision making Archer. This analysis is usually done through the use of accounting ratios otherwise known as Financial Ratio.

Ratio analysis is a useful management tool that will improve your understanding of financial results and trends over time, and provide key indicators of organizational performance. Managers will use ratio analysis to pinpoint strengths and weaknesses from which strategies and initiatives can be formed. Funders may use ratio analysis to measure your results against other organizations or make judgments concerning management effectiveness and mission impact.

2.0 Literature Review

A comparative analysis of commercial banking performance in Bangladesh was conducted by (Malek, 2005) who, for this purpose only, have taken Nationalized Commercial Bank, Local Private Commercial Banks and Foreign Commercial Banks operating during 1999 to 2002. He found that though majority of total assets, total foreign business and total deposits are held by the local private and nationalized banks but foreign bank outperformed other in performance. Moreover, in their paper, (Bayraktar & Wang, 2004) investigated firstly the impact of foreign bank entry on the performance of domestic banks, and secondly how this relationship is affected by the sequence of financial liberalization.

Furthermore, (Bayraktar & Wang, 2004) revealed that the sequence of financial liberalization matters for the performance of domestic banking sector. After controlling for macroeconomic variables and grouping countries by their sequence of liberalization, foreign bank entry has significantly improved domestic bank competitiveness in countries which liberalized their stock market first. In these countries, both profit and cost indicators are negatively related to the share of foreign banks. Countries which liberalized their capital account first seem to have benefited less from foreign bank entry as compared to the other two sets of countries.

Predicting the profitability and efficiency of banks, searching for some key banking characteristics is a relevant issue. For this purpose, (Bashir, 2001) examined the determinants of Islamic banks' performance across eight Middle Eastern countries between 1993 and 1998. The results indicate that high leverage and large loans to asset ratios lead to higher profitability. The results also indicate that foreign-owned banks are more profitable than their domestic counterparts. Everything remaining equal, there is evidence that implicit and explicit taxes affect the bank performance measures negatively. Moreover, favorable macroeconomic conditions impact performance measures positively. Even stock markets are complementary to bank financing.

Advance to deposit (ATD) ratio is the most commonly used liquidity ratio of a bank. (Misir, 1998) and (Hossain & Bhuiyan, 1990) have used this ratio for measuring liquidity of a bank. Federal Reserve Bank of Dallas also uses this ratio. A low ratio of ATD indicates excess liquidity, and

potentially low profits, compared to other banks. A high ATD ratio presents the risk that some loans may have to be sold at a loss to meet depositors' claims.

Misir (1998) have used this ratio for measuring liquidity of a bank. According to Bangladesh Banking companies Ordinance 1962, subject to amended time to time, liquid assets of commercial banks consist of cash in hand, statutory reserves (with Bangladesh Bank), balance with other banks, money at call and short-notice and approved securities. This composition of liquid assets is known as structural allocation of liquid assets.

3.0 Methodology

The aim of this paper is to conduct the comparative financial performance analysis of selected banks with the help of different ratio (Misir, 1998). The paper also finds out the competition in the Bangladeshi banking sector and the use of the ratio to measure the performance. The paper emphasizes on the comparative ratio analysis (Hossain & Bhuiyan, 1990) on 6 different Bangladeshi Commercial banks which are selected by identifying top 2 private commercial banks, based on their operating profit as of 2008, from each of the three generations of the bank. The selected banks are Prime Bank Limited (PBL) to compare with others five banks like Arab Bangladesh Bank Limited (ABBL), National Bank Limited (NBL), Dhaka Bank Limited (DBL), Mutual Trust Bank Limited (MTBL) and Jamuna Bank Limited (JBL). Our comparative study periods cover the four years from 2005 to 2008. All the analyzed data collected from the annual report of the respective bank. The output is presented through table and graph using Microsoft Excel 2010. The paper analyzed the comparative performance of the bank using different ratios (Malek, 2005) under Profitability Ratio, Liquidity Ratio, Risk Measurement Ratio and DuPont Analysis.

4.0 Organizational Overview

4.1 About the Prime Bank Limited (PBL)

PBL was incorporated as a public limited company in Bangladesh under Companies Act, 1994. It commenced its banking business with one branch from April 17, 1995 under the license issued by Bangladesh Bank. Presently the Bank has 94 branches, 14 SME Centre all over Bangladesh, and 2 booths located at Dhaka Club, Dhaka and at Chittagong Port, Chittagong. The Bank had no overseas branches as at 31 December 2010. Out of the above 94 branches, 05 branches are designated as Islamic Banking Branch complying with the rules of Islamic Shariah, the modus operandi of which is substantially different from other branches run on conventional basis. The Bank went for Initial Public Offering in 1999 and its share is listed with Dhaka Stock Exchange Limited and Chittagong

Stock Exchange Limited as a publicly traded company for its general class of shares. It was listed with Dhaka Stock Exchange & Chittagong Stock Exchange in 1999 through initial public offering (IPO).

The bank offers all kinds of Commercial Corporate and Personal Banking services covering all segments of society within the framework of Banking Company Act and rules and regulations laid down by our central bank. PBL offers:

- Commercial, Corporate and Personal Banking Services,

- Corporate Banking, Retail Banking,

- Consumer Banking,

- Islamic Banking.

5.0: Analysis and Interpretation of the Data

5.1: Profitability Ratios

The profitability ratio is the key to measure the performance of a bank by evaluating the profit or earning for the year. There are many ratios to assess the profitability of a bank like net profit after tax, net interest margin, net non-interest margin, net operating margin, earning per share etc.

The *net operating margin, net interest margin, and non interest margin* are efficiently measures as well as profitability measures, indicating how well management and staff have been able to keep the growth of the revenues ahead of rising cost. The *net interest margin* measures how large a spread between interest revenues and interest costs management has been able to achieve by close control over the bank's earning assets and the pursuit of the cheapest sources of funding. The *non interest margin*, in contrast, measures the amount of non interest revenuers stemming from deposit service charges and other serve fees the bank has been able to collect (called fee income) relative to the amount of non interest cost incurred (including salaries and wages, repair and maintenance costs on bank facilities, and loan-loss expenses) for most banks, the non interest margin in negative non interest cost generally outstrip fee income, though bank fee income has been rising rapidly in recent years as a percentage of all bank revenues.

So by analyzing some of the profitability ratio we can measure the performance of a bank, and we can also measure how well management can use the asset to earn profit. These ratios give the information about how much a bank earning by utilizing how much asset or how much expense a bank incurred to earn that much profit.

I have used five ratios to analyze the Profitability, such as:

1. Net Profit after Tax

2. Net Interest Margin

3. Net Non-Interest Margin

4. Net Operating Margin

5. Earning Per Share

Net Profit after Tax (NPAT)

Fig. 6: Year wise Net Profit after Tax

Net profit after tax is the profit after deducting all the cost and tax of the bank, this is the final profit figure of a bank, from which banks pay to the shareholder and this profit represents the earning of the bank. So this ratio should be highest for a successful bank. Here above graph shows the net profit after tax of six private commercial banks including Prime Bank Ltd. The trend of net profit of Prime Bank Limited was upward till 2007 but in 2008 it has decreased by 13.72% where AB Bank has made recordable net profit after tax in 2007 and 2008. The net profit after tax of National Bank is increasing year by year, where Mutual Trust Bank can't make any sustainable position. The net profit after tax of Southeast Bank is downward from 2005 till now their net profit after tax has decreased in 2008 by 61.92% from 2005 where Jamuna Bank got the highest profit in 2008 in their banking life though they had lowest profit in 2007 among all of the six banks from year 2005 to 2008.

Net Interest Margin (NIM)

Fig. 7: Net Interest Margin

The net interest margin shows how large a spread between interest revenues and interest costs management has been able to achieve by close control over the bank's earning assets and the pursuit of the cheapest sources of funding. As interest is the main earning of a bank so this ratio should be higher for a bank. This ratio shows that how much income a bank has earned by utilizing 1 Taka asset.

Net Non- Interest Margin (NnIM)

Figure 8: Net Non-Interest Margin

This graph shows AB Bank is gaining more noninterest income by using their asset then the other bank their net noninterest income was 1.69% in 2005 and 2.55 in 2008, so that they could have generated more profit, where mutual trust bank having lowest noninterest earning. Jamuna Bank

performing well by increasing 42.46% noninterest margin in 2008 compare to 2005. Though National Bank got more net interest margin but in terms of noninterest margin they was not performing well, where Prime Bank was able to increase their net noninterest margin by 100.93% in 2008 compare to 2005, Southeast Bank performance was little bit same as Prime Bank.

Net Operating Margin (NOM)

Fig. 9: Net Operating Margin

The net operating margin is efficiently measures as well as profitability measures, indicating how well management and staff have been able to keep the growth of the revenues (which come primarily from the banks loans investments, and service fees) ahead of rising cost (principally the interest on deposits and money market borrowing and employee salaries and benefits).

Earning Per Share (EPS)

Fig. 10: Earning Per Share

Earning per share is most widely used financial data. Higher the ratio indicates that the company may pay dividend at a higher rate. It shows how much percentage of earnings is given as dividend. The earning per share (EPS) is the share of a stock on the earning of the company. The EPS measures the profit available to the equity shareholders in a per share basis. The increasing EPS indicates the increase in the value of shares and goodwill of the bank. Higher ratio earns the higher return to shareholders and vice-versa. It is calculated as follows: When Net profit of bank is high; the EPS of the bank will also be high which shows the bank is in good conditions.

From above table EPS of AB Bank was highest for last two years which shows that the bank is in best positions compare to other banks, this is the good sign to shareholders. National Bank also got highest EPS in 2007 which is downfall in 2008. Prime Bank also has good performance till 2007 but in 2008 EPS fallen by 29.6%. The EPS of Mutual Trust and Southeast was good in 2006 but for the last two years it was decreasing and in 2008 the EPS of Mutual Trust is TK. 21.07 and Southeast Bank is Tk. 31.11.

5.2: Liquidity Ratios

Liquidity ratios measure a firm's ability to meet its current obligations. They are used to measure the financial soundness of a business and how well the company can satisfy its short- and long

obligations. They are also called solvency ratios. Solvency ratios measure the dependence of a firm on borrowed funds.

Liquidity is a bank ability to meet short-term obligation or generate cash quickly at a reasonable cost. It reflects the short-term financial strength of a bank. The liquidity in term can be used as an ability to invest in a sensitive sector like government securities, money at call etc. The limited portion of the deposit received through the depositor can be easily converted into cash. Liquidity helps to reduce the liquidity risk, which directly leads to bankruptcy. The ratio is calculated by dividing current assets by current liabilities, which test the short-term solvency of the firms.

The liquidity position of a bank is like a reservoir. It may be adequate, although nearly depleted, just before the start of the rainy season. Or it may be inadequate, although three quarters full just before the summer drought.

Liquidity can be defined as: *"The bank's ability not only to meet possible deposit withdrawals but also to provide for the legitimate needs of the economy as well"*

I have used six ratios to analyze the Liquidity, such as:

> *1. Current Ratio*
>
> *2. Debt Ratio*
>
> *3. Capital Adequacy Ratio*

Current Ratio (CD)

Figure 11: Current Ratio

Current ratio indicates the ability of the concern to meet its short-term liabilities. It measures the ability of a company to pay its debts over the next 12 months. It also measures the short term solvency of the concern. It is used by a creditor to judge the safely margin available and to decide the amount and the terms of the credit. The standard ratio is 2: 1. Liquid or debt ratio compares the quick assets with the quick liabilities. It is measures the immediate solvency position of the company.

Here graph shows that Southeast Bank conscious about the current ratio they take more current asset against the current liability, may be bank is trying to have more liquidity to meet the current obligation. Jamuna Bank was also very much care about the current ratio though it is downfall for the last year, they have more than Tk. 1.5 in their hand in terms of Tk. 1 liability. But Prime Bank is current ratio was the lowest amount all the bank and it is also downfall till now, in 2005 the current

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ration of Prime Bank was 1.00 times and in 2008 this came to 0.88 times. For the last two years the current ration trend for Mutual Trust Bank was upward, in 2006 the ratio was 0.99 and in 2008 it increased to 1.46 times. The current ratio for National Bank was fluctuating for last four years, but this ratio for AB Bank was increasing till 2007 but in 2008 this ratio was 1.23 times which was lowest for last two years.

Debt Ratio (DR)

Fig. 12: Debt Ratio

Debt ratio is another tool for measuring the leverage of a company. The higher the portion of debt ratio, the greater is the degree of risk because creditors must be satisfied before owners in the event of bankruptcy. The lower ratio of debt ratio provides a cushion of protection for the suppliers of debt. In Liabilities & Shareholders' Equity side of a bank's balance sheet, it is very usual to see greater portion of debt than shareholders' equity. So debt ratio of a bank can be interpreted in such a way that is only relevant for the banking industry.

This graph shows that National Bank debt ratio was lowest for 2005 and 2006 but in 2007 they have used more liability (91.68%) where it was decreased to 88.67% in 2008. The debt ratio for Southeast Bank was downfall for last three years which was 95.30% in 2005 and it decreased to 90.94% in 2008. This ratio for Jamuna Bank was very low in 2005 and 2006 but for the last two years to 93.17% and Mutual Trust Bank was in same position, there debt ratio was lowest in 2006 for the last four years of banking but for the last two years it increased that means the bank is using more credit than before. Only Prime Bank was using more of less same portion of liability for the last four years, which was 93.23% in 2005 and 93.94% in 2008. Only AB Bank was downfall where the debt ratio was 95.38% in 2005 and it reduced to 92.00% in 2008.

Capital Adequacy Ratio (CAR)

Fig. 16: Advance to Deposit Ratio

Commercial bank should hold adequate capital depending on their requirements. Capital fund is created to protect the interest of the depositors. Holding an excess capital than requirements may have higher holding cost and lower return from their investment, where holding too little capital may have inadequacy problem. Banks have been directed to meet any shortfall adequacy ratio by transferring part of profit to general reserve account or by increasing paid up capital. If the CAR percentage is higher than the mandatory of minimum capital fund, interests of depositor are is safe but in shareholders point of view it is not better because of idle fund.

The capital adequacy ratio for Southeast Bank was increased dramatically from 2005 to 2007 but in 2008 CAR has decreased to 11.12%. CAR for Jamuna Bank was lowest among all the banks, where Prime Bank has taken more CAR for last two years, the reason may be bank is very careful about capital safety. The CAR of AB Bank and Mutual Trust Bank was increasing with same portion; these two banks may be more serious about the capital safety or obligating of the customer. One similarity is that all the banks were concentration in a same CAR except Jamuna and National Bank they are taking low CAR.

5.3 Risk Measurement Ratio

To measure the risk of selected banks I have used two types of ratio such as liquidity risk and solvency risk. These two types of ratios are shown below comparing with Prime Bank and other five banks, after that illustration is given based on their performance.

I have used two ratios to analyze the risk, such as:

1. Liquidity Risk

2. Solvency Risk

Liquidity Risk (LR)

Fig. 17: Liquidity Risk

Here graph shows that Southeast Bank is operating with highest liquidity risk because they are giving almost 75% as a loan and advance of their total asset so this bank taking more risk which can make problem for the bank to meet short term needs. Thought in 2005 the liquidity risk for Prime Bank was highest (76.89%) for the last four years of their banking but it was downfall till now and in 2008 it has decreased to 68.05%. The liquidity risk for Mutual Trust Bank was downward in 2006 and 2007 but in last year they have taken more risk. This ratio for National Bank was steadily increased to 68.76% in 2008 which was 58.88 in 2005. Jamuna Bank and AB Bank were moving upward with same race and for the both banks liquidity ratio was increased in 2008.

Solvency Risk (SR)

Fig. 18: Solvency Risk

This is very important ratio to measure the performance of a bank, because bankers must be directly concerned about risks to their institutions long run survival, usually called solvency risk. If the bank takes on an excessive number of bad loans or if a large portion of its security portfolio declines in

the market value, generating serious capital losses when sold, then its capital account, which is designed to absorb such losses, may be overwhelmed.

Here graph shows that solvency risk for Southeast Bank was lowest (5.17%) in 2005 for their last four years, but in 2006 this ratio was steadily increased to 9.20% even in 2008 this ratio was high. Where solvency risk for Jamuna Bank was lowest comparing with others banks, even this ratio was downfall for Prime Bank may be bank is careful of taking lower risk. But the solvency risk for National Bank was steadily increasing since 2008 which is 8.49% in 2008. The solvency risk for AB Bank was lowest among all the banks in 2005 (4.62%) and till 2008 this ratio has increased to 8.00% which is almost twice then 2005. The solvency risk for Mutual Trust Bank was low in 2005 and 2006 but it increased for last two years.

5.4: DuPont Analysis

DuPont analysis (also known as the DuPont identity, DuPont Model or the DuPont method) is an expression which breaks ROE (return on equity) into three parts. Return on Asset, Return on Equity, Equity multipliers.

DuPont analysis is a method of performance measurement that was started by the DuPont Corporation in the 1920s. With this method, assets are measured at their gross book value rather than at net book value in order to produce a higher return on equity (ROE). It is also known as "DuPont identity".

DuPont analysis tells us that ROE is affected by three things:
- Operating efficiency, which is measured by profit margin
- Asset use efficiency, which is measured by total asset turnover
- Financial leverage, which is measured by the equity multiplier

It is believed that measuring assets at gross book value removes the incentive to avoid investing in new assets. New asset avoidance can occur as financial accounting depreciation methods artificially produce lower ROEs in the initial years that an asset is placed into service. If ROE is unsatisfactory, the DuPont analysis helps locate the part of the business that is underperforming.

Here I have shown three types of ratio for DuPont analysis with graph, after that the analysis is given below to show the performance of Prime Bank comparing with others.

I have used three ratios to show DuPont analysis, such as:

1. Return on Asset (ROA)

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2. Return on Equity (ROE)

3. Equity Multiplier (EM)

Return on Asset (ROA)

Fig. 19: Return on Asset (ROA)

This graph shows return on asset dramatically increased from 2006(1.11%) to 2007 (3.41%) but in 2008 the ROA decreased to 2.74%, where ROA decreased for Mutual Trust Bank in 2007 (0.66%) and 2008 (0.78%) which was 1.82% in 2006. The ROA of Jamuna Bank was highest in 2008 (2.98%) but in previous year it was 1.74%. The ROA for Southeast Bank and National Bank were increased till 2007 and which are decreased in 2008. The ROA for Prime Bank was 2.05% in 2006, which was decreased to 1.30% in 2008, the reason may be they have increased more asset but they did not got return that much, may be the return will increased in the future.

Return on Equity (ROE)

Fig. 20: Return on Equity (ROE)

The return on equity (ROE) graph shows that the ROE of AB Bank was increased twice in 2007 (42.19%) which was 20.60% in 2006, ROE of Jamuna bank was decreased in 2007 (5.54%) which was 21.39% in 2006 but in last year it was increased dramatically 25.13% which is five times the 2007. Similarly the ROE for Mutual Trust Bank was decreased in 2007 (10.31%) which was 25.11% in 2006. Southeast bank was able to earn the return by employing the shareholders equity up to 2007 but in 2008 ROE decreased to 12.06%, where the National Bank was able to keep their ROE at high rate. The ROE for Prim Bank was high in 2006 (31.67%) which trends to decrease in 2007 (30.68%) and it reached to 20.58% in 2008 which is lowest for the last four years of the bank.

Equity Multiplier (EM)

Figure 21: Equity Multiplier

One very visible line in this graph is the equity multiplier ratio of AB Bank which dramatically decreased over the last four year, in 2005 the equity multiplier for AB Bank was 21.66 times which decreased to 12.50 times in 2008, where Southeast Bank and Mutual Trust Bank was able to increase their equity multiplier ratio in 2008 than their previous year. Jamuna Bank was able to increase their equity multiplier ratio in 2007 and 2008 which was 11.25 times in 2006. The equity multiplier ratio of National Bank was 14.85 in 2006 which decreased to 11.78 in 2008. The equity multiplier ratio for all of the banks were fluctuating over the last four years where only Prime Bank was able to keep in high, the equity multiplier ratio of Prime Bank was 14.78 times in 2005 and which was 16.49 times in 2008.

6.0 Findings

As financial performance analysis works for finding out the successes, problems and lickings inside the organization, this particular paper has also performed the same activity. By analyzing these ratios of six banks, this paper will obviously give a view of the performance of Prime Bank comparing with others banks. In the paper we have tried to identify the financial strategies, achievements, problems, mistakes and gaps of Prime Bank. The major findings are:

- The operating income of PBL is not high as like AB Bank, may be the banks is concentrating more on interest income but others income is very much important for banks performance.

- The Prime Bank maintains low current ratio that may me a problem for sudden capital needs. Even the Prime Bank's debt ratio is very high, so the risk is also high.

- The deposit growth rate decreased for last two years, as deposit is the main source of fund so PBL should concentrate on deposit collection; even the credit growth has also decreased, as credit is the main source of revenue so banks should try to invest in more profit oriented sector.

- The revenue was good in 2008 than previous years, the bank is operating with a liquidity risk though it is decreasing but it might be riskier for long term goal oriented.

- The banks is utilizing more asset then AB Bank and National Bank but they can't generate that much profit so ROA and ROE is lowering for last two years. The bank is able to raise the income but it is not satisfactory with the investment.

- The bank has more current deposit, it is good as it can generate deposit at lowest cost, but bank needs to invest in a long term project. So fixed deposit should be increased.

- The DuPont shows that ROA has dramatically increased from 2006(1.11%) to 2007 (3.41%) but in 2008 the ROA decreased to 2.74%, where ROA decreased for Mutual Trust Bank in 2007 (0.66%) and 2008 (0.78%) which was 1.82% in 2006. The ROE of AB Bank was increased twice in 2007 (42.19%) which was 20.60% in 2006, ROE of Jamuna bank was decreased in 2007 (5.54%) which was 21.39% in 2006 but in last year it was increased dramatically 25.13% which is five times the 2007.

- The liquidity risk for Prime Bank was highest (76.89%) for the last four years of their banking but it was downfall till now and in 2008 it has decreased to 68.05%.

Comparative Financial Position of Prime Bank Limited (Fig. in %)			
Ratios (indication)	Prime	Five	

		Bank Average Ratio	Banks' Average Ratio	Comments
Profita bility Ratios	**Net Interest Margin (NIM)**	2.51	2.60	The performance is almost same but Prime Bank should concentrate.
	Net Non-Interest Margin (NnIM)	1.68	1.55	The performance is of Prime Bank is good.
	Net Operating Margin (NOM)	2.50	2.92	The performance is not satisfied so the bank should be careful.
Funding and Liquidity Ratios	**Earning Per Share (EPS)**	51.40	48.85	The EPS is higher comparing with five banks' average.
	Debt Ratio (DR)	93.55	90.35	The debt ratio is higher so bank should concentrate on it.
	Trend of Deposit Growth (TDG)	33.48	26.24	Deposit growth rate is higher and they should maintain it.
	Trend of Credit Growth (TCG)	34.53	29.30	Credit growth rate is very good and they should maintain it.
	Advance to Deposit Ratio (ATD)	81.37	84.51	The performance is almost same but Prime Bank should concentrate.
	Capital Adequacy Ratio (CAR)	10.57	8.20	The ratio is higher than five banks average.
Risk Measurem-ent Ratios	**Liquidity Risk (LR)**	72.83	68.22	The risk is higher but not so much, but bank should be careful of it.
	Solvency Risk (SR)	6.45	7.40	The ratio is satisfied but bank should be careful.
DuPont Analysis	**Return on Asset (ROA)**	1.72	1.46	The performance is excellent and bank should maintain this ratio.
	Return on Equity (ROE)	26.33	21.03	The performance is very much satisfied then five banks average.

Table 1: Comparative Financial Position of Prime Bank Limited

7.0 Suggestions

The main source of fund of commercial banks is collecting deposits from publics. Without enough deposits collection, bank cannot operate smoothly. So it is recommended to collect more amounts as deposits through large variety of schemes and facilities. Similarly, customization of credit card, provide facility of transfer money to their home who work/live in foreign country.

- The net interest margin in 2008 had increased but increment growth was poor then the past years' performance. The net interest margin should be increased so Prime Bank Limited should be careful to increase interest income on loan and decrease interest expense on deposit.

- The operating expense is high may be bank pays more salaries and allowances, rent, taxes. As those are mandatory by bank should ensure the high return, and the bank should concentrate on lowering the others operating expense.

- The debt ratio is higher comparing with five banks' average ratio that may be a risk for the bank. Depending on more debt is costly for the bank so the bank should not be more dependent on debt, so they should maintain a reasonable ratio.

- Though advance to deposit is good but it should be increased in the future to increase the income but bank should be careful about collection. The loan and advance is the prime sources for the profit of a bank, so bank should keep it high as much as possible as well as collection should be ensured.

- The bank should draw attention of customers through new technologies like E-banking, Mobile banking and Internet banking service increase investment through their wide range international banking method should be introduced.
- If the services of commercial banks expand all over the nation it will collect ideal money from different areas and can be utilized for income generation purpose. So the commercial banks should expand its branches all over the country.
- To survive in the industry and to earn profits bank should not rely on its present sources and facilities but also it should establish new ways of acquiring, managing and sharing market information.

8.0 Conclusion

Overall analysis of the bank leads to the conclusion that bank is performing at satisfactory level. The bank is no doubt the best Modern Bank in Bangladesh. And to keep competitive advantage over its existing and potential competitors bank is trying to introduce latest techniques on regular basis. The customers of the bank are increasing every year and that is why not only the deposits of the bank are increasing but also advances by the bank shows a steady growth during the last 4 years.

Banks are having rough competitions among themselves and offering newer type of offers every day. By implying new strategies and using newer technologies the banks are improving the standard of Banking. Prime Bank is also a participant of this tough race and for sustain in this race it has to be a better performer than others. In this particular paper, I tried to figure out the performance of Prime Bank Limited in comparison to its competitors. Hopefully these types of papers will guide it to take the essential steps to get success in long way of business time.

At last we can say the overall performance of Prime Bank Limited is very good comparing with others banks, but they should be careful about future investment and business, side by side bank should concentrate on the benefit of customers, shareholders, people, and employee. Then they can achieve the dream of success.

During its short life of operation the bank has achieved many awards not only with in Bangladesh but also from outside the Bangladesh.

So I easily without any qualm can conclude that;

"The Prime Bank is going exactly on the way of development and progression"

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Court Management- To reduce Backlog of old pending cases and Increase rate of disposal in subordinate Judicial System (Research Study: S.R.Salkute)

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Abstract:

Mentoring and coaching is a natural part of life. In case of executive mentoring someone runs alongside you, believes you, provides feed back. It takes into account personal needs and goals. Mentor gives an impartial perspective and brainstorm with you on way to move ahead. Mentoring provides quick, convenient learning of ideas, techniques. Its key benefits are personalization by way of mentoring/coaching on specific issue. This paper is a summary of Live Pilot Project on Executive Mentoring to reduce backlog of old pending cases and increase rate of disposal in Civil Judge Junior Division and Judicial Magistrate Courts , Bhiwandi District Thane (Maharashtra) .

Keywords: Court Management; mentor judge; performance evaluation; change management.

1. Introduction: Private sectors have carried out research works at various aspects. The greatest problem of district courts is that of huge backlog of cases leading to undue delay in deciding cases. The judicial system is the mechanism that provides clarity of laws, precedents and orders against those who do not adhere to laws. It is State's business and it is not a profit making agency. The concept of cost and contribution, Rule of demand and Supply is also not applicable. **Shifting the blame on judicial system only will not cure such problem. In India there are some study**

articles or research papers on the point of reducing backlog of cases. But there is no sufficient research work on the actual executing project to reduce pendency of courts cases in subordinate courts. Therefore, being social service, some research work is necessary.

New Methods and New Roles are necessary in the Justice Delivery System was pleased to addressed by Hon'ble Shri. Justice Mohit S.Shah, Chief Justice of the Bombay High Court at the inauguration of the conference of the Judicial officer on "Enhancing Quality of Adjudication" at Judicial Academy Uttan, Thane.

Such changes may be required in legal laws or procedures and other variables surveyed in various studies. But in the existing environment a new method can be applied to reduce the pendency of the cases and speedy justice by adopting effective management strategy within the purview of legal aspects.

Now, there is informal mentoring by Principal District Judge at sub-ordinate judiciary. **The Principal District Judge and other judges relationship focuses on judicial work, administrative work as per the Manual books provided and as per the circulars and directions given by superior courts. The District judge has to evaluate the outcome, conduct, performance for ACR and recommendation for promotion of his sub-ordinate judges. District Judge hold significant power over subordinate judges work so most of subordinate judges demonstrate only their strength and hide their weakness.**

At present there is open door system. If effective mentoring program is carried out then the Principal District Judge may concentrate over core issues in the Judicial System. The step ladder system may solve grievances at initial stages.

At District & Sessions Court, Thane formulated a mission to develop "*Best Practices Guide*" for improving Judicial Quality, Enhancing court management and reduce pendency. The pilot project is for one of the object of the misssion wherein method of executive mentoring is applied to reduce the pendency. It is only an attempt to find out solution. Other methods may be more beneficial or effective for which research person have to devote their valuable time for such social service.

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Executive mentoring helps in improving effectiveness of mentee in terms of leadership, decision-making, creativity, stress, time management, meetings - and career development. A mentor helps an executive assess his or her performance, to obtain confidential feedback in individual strengths and weaknesses, and to learn new skills and behaviors. Therefore such programs should be the response to a realistic assessment of the overall needs and capacities of the judicial system. The key operational issues that need to be addressed in the preparation of a judicial mentor program. **Some additional qualities are also required in Mentor Judge and Mentee**.

2. Research System: The period of Pilot project was from December 2012 to February 2013. Disposal from previous three months from September 2012 to November 2012 was compared.

There are Eight Courts of Civil Judge Jr. Dn. & J.M.F.C at Bhiwandi Thane.

Physical verification of cases by qualitative and quantitative manner is like a health check of the the court. At four courts, physical verification by quantitative method was carried out; therefore those courts are selected and taken as *Pilot courts*. Other Four courts where balance sheet and physical verification was not carried out, those are considered as *Non-piloting courts*. Some Pilot courts are concentrating over criminal cases though civil cases are vested to them. Mentoring sessions were held for all courts. This pilot project shows effect over piloting and non piloting area.

The aspects are researched, *for pilot courts*, increasing percentage rate of disposal per day and percentage rate of disposal of old pending cases by dissecting balance sheet. For *Non-piloting courts* were monitored and effect of increase in average rate of disposal of cases per day and average decrease in pendency found. Thirdly, overall effect of this pilot project over disposing cases under ADR system.

3. **Research Objectives:** The main objectives from the Mentoring Program for Pilot Project were:

1. To scrutinies the nature of all pending cases and find out the reasons behind the backlog with an aim to reduce it.

2. Close monitoring system which is helpful to improve case management and quick disposal. Reducing backlog of old pending cases.

3. Increasing rate of disposal per day.

4. To motivate to dispose of cases by Alternative Dispute Resolution System.

5. To ascertain other points (variables) affecting to the pending cases.

4. Data (primary and secondary): The secondary data is collected from Web sites and from Administrative Section of District Court Thane and Civil Court Bhivandi. Secondary data is compared with primary data. Primary data which is directly collected and observed from the decided and pending cases during the pilot project period.

5. Research Instrument: Daily Board/Cause list and pending cases in court are actually verified. The stages of cases, its reasons for pending are find out to enrich thought process.

6. Research Tool: Method of Focus Group, interviews, meetings with Judges / staff were and Police machinery. Mentor Sessions for improving the knowledge for legal provisions were conducted. Evaluated results are at the end of the pilot program.

7. Research Plan:-The aim is to find out the reasons for such pendency and to promote to judges/mentee to call such cases, to take effective steps according to law. The goal is also to dispose off cases in speedy. On verification of record it reveals that, some of criminal cases were found on daily board but in fact those cases were kept at the cub boards. Most of cases are found undated. In criminal cases daily board, the cases were dated for future by group . It means those cases were not called or could not reach for calling. In civil most of cases are are adjourned as per previous Roznama (It is a documents wherein daily progress,

steps etc are entered serially on time and day to day basis).

The mentoring sessions were conducted and the progress in disposal of old cases and increase in rate of disposal of cases is calculated.

8. Main Factors:-

A)   Decreasing the pendency of cases in all courts.

B)   a)   Pilot courts:-

 (I) Increasing % rate of disposal per day.

(II) Decreasing % backlog of old pending cases.

b)   Non-pilot Courts:

(i)   Average Increase the rate of disposal of cases per day.

(ii)   Average Decrease the pendency of cases .

c) For ADR system:- Increase in disposal of cases through Mediation and Maha Lok-Adalat.

9.   Observations: Each of the pilot courts had a distinctly different experience with the pilot project. For this reason, each court examined separately in order to consider the extenuating factors that varied from court to court. Experience during the three months of the pilot project has shown that the goal of reducing backlog in the courts is being achieved.

If the process of appraisal of percentage in deceasing in pendency or increasing in rate of disposal for speedy trial, does not lead to the improvement of the skills and proficiency of the Mentee, the very purpose of appraisal becomes illogical. In the pilot project, it is observed that, except the principal CJJD and JMFC and 2nd Joint CJJD and JMFC other courts agree that performance appraisal leads to polishing the skills of the mentee. But this is a pilot project for speedy disposal and to decide old pending cases so the entire performance of mentee is not considered and only output by effective working day with pending cases are calculated. Here entire tables and observations in the mentor sessions shows that there is no chance for bias by Mentor.

10. **Effects of Program:**

Decreasing the pendency of cases in Civil Cases by Pilot Courts.

§   3rd Joint Civil Judge Jr. Dn.and JMFC Decreased Pendency of 99 cases

§   Disposal for 3rd Joint Civil Judge J.D. &J.M.F.C. In civil cases Increased per day by <u>1.636</u>

§   5th Joint Civil Judge Jr.Dn. and JMFC Decreased Pendency of 12 cases

§   Disposal for 5th Joint Civil Judge Jr. Dn. &J.M.F.C. In civil cases Increased per day by <u>0.428</u>

Decreasing the pendency of cases in Criminal cases by Pilot courts

§   4th Joint Civil Judge Jr. Dn. and JMFC Decreased Pendency of 145 Cases

§   Disposal for ^{4th} Jt. Civil Judge Jr. Dn. & JMFC in criminal cases Is increased per day by <u>1.991</u>

§   5th Joint Civil Judge Jr.   Dn. and JMFC Decreased Pendency of 156 Cases

§   Disposal for 5th Jt. Civil Judge Jr. Dn & JMFC in criminal cases Is increased per day by <u>5.414</u>

§   Juvenile Court Decreased pendency of 102 Cases

§   Disposal by Juvenile court   is increased per day by   7.202

Pendency decreased by Mediation by Pilot Court

§   Mediation cases disposal by 3rd Joint CJJD & JMFC is increased 07 cases

§   Mediation cases disposal by 4th Joint CJJD & JMFC is increased 21 cases

§   Mediation cases disposal by 5th Joint CJJD & JMFC is increased 10 cases

Decreasing criminal cases pendency by Non-pilot courts

§   Jt. CJJD & JMFC disposal rate increased 1.08 & 10 years old pendency 0.333 (BJ), 9.667 (O.W.)

§   6th Jt. CJJD & JMFC disposal rate increased 2.294 & 10 years old pendency 1.333 (BJ), otherwise 6.667 (O.W.)

Pendency decrease by mediation by non-pilot court

§   Jt. CJJD & JMFC increased 12 cases.

§   6th Jt. CJJD & JMFC increased 13 cases.

10.   *Conclusion***:** There is heavy pendency of cases in all courts. Most of the cases are old cases.

Each of the pilot courts had a distinctly different experience with the pilot project. For this reason,

each court was examined separately in order to consider the extenuating factors that varied from court to court. There are two civil courts. One of the civil court which is pilot court has given excellent response. The pilot court for criminal cases, where civil cases are vested, has shown satisfactory progress .This pilot project resulted in significant improvement in nearly all areas of case load management. In addition, all the courts showed more favorable results for disposal of cases through ADR System. Experience during the three months of the pilot project has shown that, except resisting courts, the goal of decreasing backlog in the courts is being achieved. The resistance to change may be due to lack of knowledge or fear of unknown. But to overcome from resistance a separate research study is required. The Policy & Action Plan for National Court Management Systems (NCMS) will be more beneficial for getting dramatically higher results.

11.   Limitation of the Research Study

−   At Thane district the returns for year wise break up for criminal cases in the project courts not found. In such circumstance the reason for non taking physical verification at least by qualitative method can not be assumed.

−   At Thane district   there is procedure to show transferred cases as disposal in the monthly returns, it become difficult to find out actual effective work and it has to be ascertain either from disposal book, if maintained by court or by actual verifying cases of disposal for the month.

−   The Line Functioning Staff's experience to work at court not calculated.

−   Due to sanctioned court and post for staff and heavy pendency at all courts, the equal distribution criteria proposal can not made unless the health check of non-piloting courts are carried out.

−   Cause list from CIS and actual working at court was different so it requires detail study to revise cause list as per convenience of court and its work load.

−   Time spend in time bound cases is not calculated to find out its effect over calling daily

matters at cause list.

− Effect of infrastructure, non availability of trained staff etc is not calculated for statistical inference of efficiency of the mentee and staff.

− Data at CIS is not updated and feeding of most of matters is pending so effect of providing CIS for speedy disposal can not be calculated.

12. Scope for further studies: During the pilot project, some internal factors affecting to disposal of cases are discussed in the summary at mentoring sessions. But, considering scope of this study, further, Internal and external environment and its dimensions, In-house and Out house management aspects are not discussed.

References:

Data:

Primary data collected from actual working/observations

Statistical data is collected from District Court Thane and Bhiwandi Court (Thane)

Books

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2. The Code of Criminal Procedure (20th Edition) by Ratanlan&Dhirajlal, LexisNexis,

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3. Civil Manual

4. Criminal Manual

5. Compendium of Administrative and Financial powers delegated to the Judicial officers

6. Report of the Study Group appointed by the High court and organizational set-up and staffing

pattern of the Mofussil Courts 1981

7. CIS (case information Study by NIC)

8. Study material provided by Sikkim Manipal University for MBA (For HR and

Mentoring)

Web site: Secondary data collected

www.bombayhighcourt.nic.in

www.manupatra.co.in

www.pib.nic.in

Www.indiancourts.nic.in

Detailed pilot project

Pilot Project Data Presentation:

CIVIL PILOT COURT

Increased Disposal rate per day by Pilot CIVIL COURT

Court	Sep.12 to Nov.12			Dec.12 to Feb.13			Rate of Disposal Increase in per day
	E.W.D.	Disposal	per day	E.W.D.	Disposal	per day	
3rd Jt.CJJD & JMFC	59.5	101	1.697	60	200	3.333	1.636
5th Jt.CJJD & JMFC	27.5	01	0.036	28	13	0.464	0.428

Findings: Rate of disposal per day for 3rd Joint Civil Judge J.D. &J.M.F.C. Increased by **1.636**

Rate of disposal per day for 5th Joint Civil Judge J.D. &J.M.F.C. Increased by **0.428**

Average % Rate of decrease in pendency of old Civil cases by pilot court

Court	Up to 2 years		More than 2 yrs & up to 5 years		More than 5 yrs & up to 10 years		More than 10 years	
	BJ	o.w.	BJ	OW	BJ	OW	BJ	OW
3rd Joint Civil Judge J.D. and JMFC	-0.088	0.068	0.001	-0.099	-0.251	0.631	0.21	6.485
5th Joint Civil Judge J.D. and J.M.F.C			00	7.40	1.388	10.83	-4.166	4.76

Findings: For 3rd Joint Civil Judge J.D. & J.M.F.C.

1. Old backlog more than 2 years & up to 5 years decreased by Judgment **0.001**

2. Old backlog more than 10 years decreased by Judgment **0.21**

3. Old backlog up to 2 years decreased by otherwise **0.068.**

4. Old backlog more than 5 years & up to 10 years decreased by otherwise **0.631**

5. Old backlog more than 10 years decreased by otherwise **6.485**

For 5th Joint Civil Judge J.D. and J.M.F.C.

1. Old backlog more than 5 years & up to 10 years decreased by Judgment **1.388**

2. Old backlog more than 2 years & up to 5 years decreased otherwise by **7.40**

3. Old backlog more than 5 years & up to 10 years decreased otherwise by **10.83**

4. Old backlog more than 10 years decreased otherwise by **4.76**

CRIMINAL PILOT COURT

Increased % Disposal rate per day by Pilot CRIMINAL COURT

Court	Sep.12 to Nov.12			Dec.12 to Feb.13			Rate of Disposal Increase in per day
	E.W.D.	Disposal	per day	E.W.D.	Disposal	per day	
3rd Jt.CJJD & JMFC	59.5	07	0.117	60	03	0.05	-0.067
4th Jt.CJJD & JMFC	55	96	1.745	64.5	241	3.736	1.991
5th Jt.CJJD & JMFC	27.5	243	8.836	28	399	14.25	5.414

Findings:

1. 3rd Jt.CJJD & JMFC: Is civil court has not shown progress in criminal cases   disposal within the span of project period.

2. 4th Jt.CJJD & JMFC :-Rate of disposal per day Is increased by **1.991**

3. 5th   Jt.CJJD & JMFC : Rate of disposal per day Is increased by **5.414**

Average % Rate of decrease in pendency of old CRIMINAL cases by pilot court

Court	Up to 2 years		More than 2 yrs & up to 5 years		More than 5 yrs & up to 10 years		More than 10 years	
	BJ	o.w.	BJ	OW	BJ	OW	BJ	OW
3rd Joint Civil Judge J.D. and JMFC	00	00	00	00	00	0000	00	00
4th Joint Civil Judge J.D. and JMFC	0.033	0.015	0.005	0.753	-0.322	2.00	0.01	0.618
5th Joint Civil Judge J.D. and J.M.F.C	-0.277	2.308	0.151	1.493	3.48	29.62	5.426	5.55

Findings: For 3rd Joint Civil Judge & J.M.F.C**:-** There was missing criminal cases which are already noted in Inspection note and therefore the balance sheet does not tally.

For 4th Joint Civil Judge and J.M.F.C

1. Old backlog up to 2 years is decreased by Judgment **0.033** and otherwise **0.015**

2. Old backlog more than 2 years & up to 5 years decreased by judgment **0.005** and otherwise **0.753**

3. Old backlog more than 5 years and up to 10 years is decreased otherwise **2.00**

4. Old backlog for more than 10 years is decreased by judgment **0.01** and otherwise **0.618**

For 5th Joint Civil Judge J.D. and J.M.F.C

1. Up to 2 years disposal decreased otherwise by **2.308**

2. More than 2 yrs & up to 5 years by judgment increased **0.151** and otherwise by **1.493**

3. More than 5 yrs & up to 10 years by judgment **3.48** and otherwise by **29.62**

4. More than 10 years by judgment **5.426** and otherwise **5.55**

JUVENILE PILOTING COURT

Increased Disposal rate per day by Piloting Court (Juvenile)

Sep.12 to Nov.12			Dec.12 to Feb.13			Disposal Increase in per day
E.W.D.	Disposal	per day	E.W.D.	Disposal	per day	
24	313	13.041	20.5	415	20.243	**7.202**

Rate of disposal per day is increased **7.202**

Average % Rate of decrease in pendency of old CRIMINAL cases by Juvenile pilot court

Court	Up to 2 years		More than 2 yrs & up to 5 years		More than 5 yrs & up to 10 years		More than 10 years	
	BJ	o.w.	BJ	OW	BJ	OW	BJ	OW
Juvenile	-0.119	-0.722	-0.296	-5.135	-0.341	-11.31	0.007	16.25

Findings: Rate of disposal per day in juvenile court is increased by **7.202**. Backlog more than 10 year are reduced **0.007 by** Judgment and **16.25** by otherwise.

Increased Disposal rate per day by Non – Pilor Court (Civil)

Court	Sep.12 to Nov.12			Dec.12 to Feb.13			Average Disposal Increase in per day
	E.W.D.	Disposal	per day	E.W.D.	Disposal	per day	
Principal CJJD and JMFC	56.5	62	1.097	61.5	70	1.13	0.033
2nd Jt. CJJD and JMFC	58	01	0.017	61	00	00	0
6th Jt. CJJD and J.M.F.C.	51	05	0.098	51	06	0.117	**0.019**

Findings: Principal CJJD and JMFC & 2nd Joint CJJD and JMFC has not shown progress . 6th Joint CJJD and JMFC rate of disposal per day is increased **0.019**

Increased Disposal rate per day by Non-Pilot Court (CRIMINAL)

Court	Sep.12 to Nov.12			Dec.12 to Feb.13			Average Disposal Increase in per day
	E.W.D.	Disposal	per day	E.W.D.	Disposal	per day	
Principal CJJD and JMFC	56	0	0	61.5	0	0	0
Jt.CJJD and J.M.F.C	54.5	99	1.81	58	168	2.89	1.08
2nd Jt. CJJD and JMFC	58	63	1.086	61	82	1.344	0.258
6th Jt. CJJD and J.M.F.C.	51	58	1.137	51	175	3.431	2.294

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Findings: 1. Principal CJJD and JMFC has not shown progress

2. 2nd Joint CJJD and JMFC rate of disposal is **0.258** but fact is that there is no progress for   decreasing old pendency.

3. Joint civil judge and JMFC has shown increase disposal rate **1.08**

4. 6th Joint CJJD and JMFC has shown increase in rate of disposal **2.294**

Average old disposal CRIMINAL by non pilot courts (as balance sheet is not clear so not calculated in %)

Court	Up to 2 yrs		More than 2 yrs & up to 5 years		More than 5 yrs & up to 10 years		More than 10 years	
	B.J.	**O.W.**	**B.J.**	**O.W.**	**B.J.**	**O.W.**	**B.J.**	**o.w**
Principal CJJD and JMFC	00	00	00	00	00	00	00	00
Jt.CJJD and J.M.F.C	1.666	5.333	1.667	1.667	2	4.333	0.333	9.667
2nd Jt. CJJD and JMFC	2.333	-7.327	2	-6	-0.666	-4.333	0.333	0.667
6th Jt. CJJD and J.M.F.C.	-0.333	-4.666	-2	-3.666	1.667	10.334	1.333	6.667

Findings:- 1. Principal CJJD and JMFC the progress is zero

2.   Joint CJJD and JMFC by judgment for 2 years **1.666** by otherwise **5.333**, For more than 2 years and up to 5 years by judgment and otherwise **1.667**, More than 5 years and up to 10 years by judgment 2 and otherwise **4.333**, for more than 10 years by judgment **0.333** and otherwise **9.667.**

3.   2nd Jt. CJJD & JMFC has not shown progress

4.   6th Joint CJJD and JMFC for more than 5 years and up to 10 years by judgment **1.667** and

otherwise **10.334** , for more than 10 years by judgment **1.333** and otherwise **6.667**

Data For ADR:

Mediation

Court	Month								
	Sep 12	Oct.12	Nov.12	Total	Dec. 12	Jan. 13	Feb. 13	Tota l	Increase in Pilot project
Principal CJJD & JMFC (non-piloting court)	00	00	00	00	00	00	00	00	00
Jt. CJJD & JMFC (non-piloting court0	00	2	00	2	2	6	6	14	12
2nd Jt. CJJD & JMFC (non-piloting court)	00	00	00	00	00	00	00	00	00
3rd Jt. CJJD & JMFC (pilot Court)	4	5	4	13	6	6	8	20	07
4th Jt. CJJD & JMFC (pilot Court)	1	00	3	4	11	12	2	25	21
5th Jt. CJJD & JMFC (pilot Court)	00	2	00	2	3	6	3	12	10
6th Jt. CJJD & JMFC (non-piloting court)	00	2	00	2	1	4	10	15	13
Juvenile (pilot Court)	00	5	7	12	00	1	4	5	-7

Maha Lok-Adalat: Cases decided by on dated 16th September 2012 & 3rd March 2013 Maha Lokadalat at

Bhivnadi Court

Name of court	Maha Lok- adalat dated	Maha Lok-adalat	Difference which

	16th September2012	dated 3rd March,2013	reduces pendency
Civil Suits	31	17	**14**
Criminal cases	15	24	**9**
u/s 138 NI Act	22	11	-11
Juvenile court	21	00	00
Pre-litigation	11	40	**29**
Special Court-u/s.258	958	565	00
Special Court NC	1514	460	00
Total	2599	1117	

To appreciate separately, figures in Maha Lokadalat and Mediation are not considered in the average or percentage decreasing of old pendency of cases by mentee. In ADR also there is progress by Pilot Courts for reducing pendency. Non-piloting courts have also shown progress. The courts who are resisting to this change has not shown progress in ADR also.

Total backlog reduced in Civil Cases

Court	Disposal sep.12 to Nov.12	Disposal Dec.12 to Feb.13	Decreased backlog reduced
Principal Civil Judge Jr.Dn.and JMFC	76	70	00
2nd Joint Civil Judge Jr.Dn. and JMFC	1	0	00
3rd Joint Civil Judge Jr.Dn.and JMFC	101	200	99 Piloting court
5th Joint Civil Judge Jr.Dn.and JMFC	1	13	12 Piloting court
6th Joint Civil Judge Jr.Dn.and JMFC	5	6	1 Non-piloting court

Total backlog reduced in Criminal Cases   due to Pilot Project

Name of court	Disposal sep.12 to Nov.12	Disposal Dec.12 to Feb.13	Decreased backlog reduced
Principal Civil Judge Jr.Dn.and JMFC	0	0	0
Joint Civil Judge Jr. Dn.and JMFC	99	168	69 Non-piloting court
2nd Joint Civil Judge Jr.Dn. and JMFC	63	82	19 Non-piloting court
3rd Joint Civil Judge Jr.Dn.and JMFC	7	0	0 Piloting court
4th Joint Civil Judge Jr.Dn.and JMFC	96	241	145 Piloting court
5th Joint Civil Judge Jr.Dn.and JMFC	243	399	156 Piloting court
6th Joint Civil Judge Jr.Dn.and JMFC	58	175	117 Non-piloting court
Juvenile Court	313	415	102 pilot court

Total work load decreased

Civil	Criminal	Mediation	Mahalokadalat (except prelitigation)	Total
89	1489	91	1077	2940

Abbreviation:

EWD = effective working days

BJ= By Judgment

O.W. = otherwise

D.F. =Dormant File

N.C. = Non-cognizable cases

Special court = court constituted on Holiday (Lokadalat Day)

CJJD = Civil Judge Junior Division

JMFC = Judicial Magistrate First Class

CPC = Civil Procedure Code

Cr.P.C. = Criminal Procedure Code

NI Act = Negotiable Instrument Act.

RCC = Regular Criminal Case

RCS= Regular Civil suit

Forecasting Daily Retail Sales Using a Modified Genetic Algorithm Neural Network

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Forecasting Daily Retail Sales Using a Modified Genetic Algorithm Neural Network

Abstract

In this paper the authors document the successful use of a neural network application in predicting daily retail sales for a franchise location of a national brand clothing retailer. Because of the critical nature of the management of retail inventory and the impact such management has on the profitability of a given store, any application or tool that facilitates such effective prediction of sales and resulting required stocks of inventory would be an important asset to any contemporary store manager. Results of this study indicate that the modified genetic algorithm neural network utilized offers more accurate forecasting ability than other statistical methods including other types of neural network models.

Forecasting Daily Retail Sales Using a Modified Genetic Algorithm Neural Network

Introduction

Accurately predicting sales is one of the determining factors of success in every industry. Companies that execute accurate forecasting can account for peak times before they happen, which in turn allows the logistics division to keep store inventory at optimal levels to support predicted sell-through. For the retail industry, this means that merchandise must be in stock, employee hours allocated, marketing campaigns executed, and budgets created to fit the predictive model used by the company. All of these actions occur at the upper levels of a business, several months in advance, and all are a determining factor in being prepared to meet anticipated demand and reach projected sales goals. But what resources exist to support daily planning at the individual store level? While the goal of most retail stores is to exceed the sales for last year, is this the most efficient method? Individual store managers have to account for seasonal and cyclical trends in business patterns to adequately plan and prepare for the next day and the next week. Store managers have to make last minute adjustments to payroll hours and merchandise placement to meet the real-time needs of the store.

Related Literature

Given the management value of accurately predicting future retail sales, prior studies of using automated means to derive such insights are numerous. And while the methods of prediction have often varied, the successful use of neural network algorithms seems to have been the focus of a number of these efforts.

Kuo, Wu and Wang (2002) moved the use of artificial neural network (ANN) technology forward with their study that focused on more readily identifying exceptions to predictive rules in order to more accurately forecast sales and required inventories. In their study, the use of a modified "fuzzy" neural network algorithm and weighting of factors outperformed both traditional statistical methods as well as previously established neural network algorithms in the prediction of future sales.

In an effort to better forecast national retailing trends, Kumar, Agrawal and Joshi (2003) developed a multivariate simulation methodology as part of their neural network application that was able to identify multiple contributing factors resulting in a significantly improved sales-trend forecast when compared to prior methodologies.

While some neural network prediction efforts have resulted in significant gains in sales forecasting ability, other studies attempting to advance the use of neural networks, through modifications in those applications, report only modest results. Das and Chaudhury (2007) were able to report a 9% accuracy level for short-term predictions in the particular neural network model employed in their study.

Kumar and Patel (2010) did apparently advance the accuracy and value of neural networks in sales forecasting by establishing a statistical method of combining or "clustering" individual forecasts together, with the results of that combined forecast being significantly more accurate than those individual sales forecasts.

More recent efforts by Hicham, Mohamed and Abdellah (2012) continued the trend of the grouping or clustering of predictive factors together in order to improve the overall performance of

the neural network's predictive ability. These authors once again were able to endorse this particular variation of the neural network application as an improvement over both traditional statistical forecasting and prior neural network forecasting models.

Finally, Xia, Zhang, Weng and Ye (2012) put forth yet another modified model of the neural network in which inputs to the model were modified on a more frequent basis than in prior versions of neural network modeling. The use of "adaptive metrics of inputs" resulted in a model that was much more versatile and dynamic and much more adaptable in an environment in which changes in that sales environment were frequent.

Neural Network Simultaneous Optimization Algorithm (NNSOA)

Using neural networks, this research attempts to predict next day sales for an individual retail store. Neural networks have proven to be successful predictive tools in multiple industries including healthcare, industrial, technology, and business. Based on the research of (Gupta, Sexton, & Tunc, 2000; Sexton, Dorsey, & Johnson, 1998; Sexton & Gupta, 2000), this investigation utilized a neural network simultaneous optimization algorithm (NNSOA) based on the genetic algorithm allowing for greater performance than gradient search algorithms. The NNSOA simultaneously searches for the optimal global solution in many directions, while gradient algorithms (back propagation) only moves from one point to another to arrive at a local optimal solution and represents yet another evolutionary movement in the application of neural networks to solving business problems. Despite the advent of more recent innovations to the NN model, the NNSOA based on the genetic algorithm continues to offer superior predictive ability when compared to other statistical and neural net methodologies (Sexton & Gupta, 2000).

The NNSOA automatically searches for the optimal number of hidden nodes that best fits the neural network. Utilizing a NN based on the genetic algorithm identifies unnecessary weights in the NN solution and accounts for these weights in such a way that reduces additional error when

applying the solution to the out-of-sample data. Also, the NNSOA allows researchers to determine the relevant and irrelevant variables used in the neural network through sensitivity analysis, giving managers a greater understanding of which variables have the largest relative impact on predicting next day sales.

Study Methodology

This study aims to determine the effectiveness of using an NNSOA based NN to predict next day sales. Data was collected from a single clothing retail store within an internationally operated corporation. The store has been operational for over 15 years, is located in a Mid-Western metropolitan area with an estimated population of over 400,000, and averages $4.5-$5mill in annual sales. The store utilizes an efficient retail controller system consisting of multiple point-of-sale systems, a controller that collects and transmits daily information, and an electronic traffic counter. Daily observations were collected from Jan 31, 2010 through April 12, 2013. The variables were tracked electronically and submitted daily to the corporation's server. The following inputs were selected after analyzing the data: sales, transactions, average transaction, traffic, conversion, units, average unit retail, units per transaction, and gross margin.

Since retail is subject to multiple seasonal fluctuations based on the day of the week and week of the year, inputs were added to account for these variables. The day of the week was accounted for using a 3bit binary combination and the week of the year was included with a 6bit binary combination. The week's value corresponds to the fiscal calendar already used by the store that starts in February. An input was also added to account for special days because the dataset had a limited number of observations for holidays and special events—1 represents a holiday and non-holidays are 0. These inputs are shown in Table 1.

The data consisted of 1,154 daily observations. A ten-fold cross validation of 10 training and 10 testing sets out of the 1,154 observations was conducted to add accuracy. Following the

recommended practice of processing raw inputs before training the NN, the data was preprocessed using a deseasonalization method and normalization (Zhang & Qi, 2005; Virili & Freisleben, 1999; Kaastra & Boyd, 1996). Processing the raw data minimizes the trend, error, and seasonality present in the data allowing the NN to efficiently learn the proper balance of hidden nodes and weights. This data set was preprocessed to remove the daily seasonality by calculating a seasonal index for Sunday through Saturday to remove the seasonal component. In addition, the data was normalized to a value between 0 and 1 and the observations were then randomized.

The first 1,039 observations were saved as the training file and the latter 115 observations were removed and saved as the test file. For the next training and testing file, the 115 observations from the previous test file were placed before the previous 1,039 training set. The last 115 observations were removed and saved into the second test file. The remaining 1,039 observations were saved as the second training file. This was performed for nine training and testing sets. Due to the original number of observations not being equally divisible by ten, the tenth data set included 1,035 training observations and 119 testing observations.

Table 1
Description of inputs

Input Variables	Description (all as daily metrics)
Sales	Net sales
SD	Special days (holidays and special events)
Trans	Transactions for store
AT	Average transaction dollar amount
Traffic	Quantity of customers entering store
Conv	Percentage of customers that made a purchase
Units	Number of net units sold
AUR	Average price of units sold
GM	Net sales minus cost of goods
Week	Week of the year represented in binary format (0,0,0,0,0,0)
Day	Day of the week represented binary format (0,0,0)

Several other forecasting techniques were included to add additional rigor to this study and verify performance of the NNSOA against other forecasting methods. Each technique used the identical data set used to train the NNSOA. The forecasting techniques compared included Holt-Winters (HW), exponential smoothing (ES) with seasonality and trend included, seasonal exponential smoothing (SES), moving average (MA), a naïve model (NA) using the corresponding sales from the previous year, and three separate models of seasonalized trend forecasting. For the seasonalized forecast model the sales data was pre-processed using three approaches to remove seasonality. The first seasonal model (DSW) calculated the seasonal index for each day of the week across the entire data set to account for the seasonal pattern of higher weekend sales. The second model (DSM) calculated the seasonal index for each month across the entire data set to account for monthly change in purchases to reduce the seasonal impact of peak sales months; this model did not include a seasonal index for each day of the week as in the first model. The third model (DSMW) combined both seasonal indexes by first removing the monthly seasonality and then removing the weekly seasonality.

The NNSOA was processed in the neural network software package developed by Sexton et al. (1998). HW, ES, and MA were computed using R (2013), SES was calculated using SAS version 9, and DSW, DSM, DSMW, and NA were manually calculated in Excel.

Interpretation of Results

The NNSOA was trained using the ten training sets and the solutions were tested on their respective testing sets. The results of each testing set are presented in Table 2. The NNSOA produced a tight grouping of solutions as noted with standard deviation of $335. And as shown in Table 3, the NNSOA outperformed the naïve forecasting model on 10 out of 10 runs, and outperformed all other forecasting models on every run.

One of the benefits of using the NNSOA for predictive modeling is its ability to identify which inputs were used in predicting the output. This benefits management by allowing them to make decision that can directly impact the variables that influence sales. This allows management to know where to focus their time and for which performance metrics to hold store managers accountable. Figure 1 shows the frequency of each input that made a non-zeroed connection in the NNSOA.

Table 2
Amount of error from testing of NNSOA

Run Number	RMSE	RMSE (in dollars)
1	0.0327	3,935
2	0.0331	3,973
3	0.0319	3.837
4	0.0286	3,432
5	0.0315	3,781
6	0.0287	3,455
7	0.0339	4,073
8	0.0317	3,808
9	0.0259	3,108
10	0.0267	3,211
Average	0.0305	3,661
Standard Deviation	0.0027	335

Figure 1
Frequency of Use

Table 3
Comparison of root mean squared error from alternative forecasting methods

Forecasting Techniques	RMSE (in dollars)
HW	11,883
ES	10,014

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SES	7,606
MA	11,275
DSW	8,171
DSM	9,747
DSMW	7,820
NA	4,806
NNSOA	3,661

The NNSOA is also able to reduce the network architecture by finding the optimal number of hidden nodes and eliminating unnecessary weights. Table 4 shows the optimal number of hidden nodes and the number of weights reduced to zero for each testing run. The NNSOA was able to zero out 87.73% of weights on average for the training sets. In addition, the NNSOA optimally selected an average of 3.9 hidden nodes.

Table 4
Optimal hidden nodes and zeroed weights

Run	Hidden	Total Weights	Weights Reduced	% Reduction
1	4	80	68	85.00%
2	5	100	92	92.00%
3	3	60	50	83.33%
4	3	60	52	86.67%
5	4	80	68	85.00%
6	3	60	53	88.33%
7	4	80	72	90.00%
8	5	100	91	91.00%
9	5	100	91	91.00%
10	3	60	51	85.00%
Average	3.9	78	68.8	87.73%

Figure 2
Sensitivity Analysis-Real Variables

Figure 3
Sensitivity Analysis-Weeks of the Year

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Figure 4
Sensitivity Analysis-Days of the Week

Figures 2-4 display the sensitivity analysis of all variables included in the NNSOA. Sensitivity analysis was performed separately for each of category of variable. Figure 2 shows the sensitivity for each of the real variables, revealing that certain variables had a larger degree of sensitivity in predicting sales than others. For the variables with a positive sensitivity value, the value of next day sales will increase. AUR and sales had the largest impact on next day sales, which makes intuitive sense. The variables with a negative sensitivity value—AT, traffic, and units—suggest that as these variables increase in value next day sales would decrease.

The classification variables of weeks and days are shown in Figures 3 and 4. Weeks 8-15, 24-31, and 40-47 show a sensitivity value greater than the remaining weeks, indicating that a seasonal pattern is present that generally increases sales for during these periods. Taking into account the fiscal calendar shift (the fiscal year begins in February), this analysis makes sense as most retailers experience increased sales at the beginning of the school year, during the winter holiday, and at the beginning of spring. Figure 4 reveals that while the days of the week positively influence next day sales, each day had a similar impact on predictive values. Accounting for the data preprocessing that removed the daily seasonality of the dataset, the sensitivity values make sense. While this sensitivity analysis presents positive and negative relationships between the inputs and the output, this analysis is only a recommendation that identifies tendencies exhibited through the data and does not account for the interactions between variables.

Conclusions

The NNSOA is shown to outperform the included forecasting techniques. The NNSOA searched for the global optimum solution by automatically selecting the most efficient number of hidden nodes. The underlying genetic algorithm of the NNSOA allows the NN to identify and

remove unneeded weights from the solution allowing researchers and managers to identify the irrelevant variables within the NN.

Additional studies are required to examine the seasonal impact of sales patterns when training the NNSOA to identify methods of data preprocessing that results in more accurate forecasts. Also, studies should be conducted to determine the impact of including other inputs, such as external economic indicators, would improve the accuracy of predicting next day sales. While this study outperformed each of the compared forecasting techniques, the NN would benefit from continued data collection to build a more comprehensive data set.

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Impact of Directors' Remuneration on Financial Performance of a Firm

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Abstract

This paper examines the possible association between financial performance of the firm and remuneration of its key management. It is also one of the very few examples, which attempts to test the pay-for-performance theory of agency conflict resolution in context of developing market (Pakistan). The present study examines the performance of firms in terms of profitability and its association with management remuneration for 70 Pakistani corporate firms listed in Karachi stock exchange for the period of 2007 to 2011 and attempts to explain the observed behaviour with the help of fixed effect model. The results consistently support the potential association between firm's financial performance and management remuneration policy although the intensity of relationship differs across different measures of performance. We find evidence in support of the hypothesis that a positive association exists between remuneration and performance in terms of resource utilization and shareholder wealth.

Keywords: Management remuneration, financial performance, Pakistan.

Introduction

Agency conflict is one of the vital issues of corporate sector. Scholars have identified and proposed many solutions to reduce this conflict and align the goals of key management with those of the shareholders. The most applied of these is the pay-for-performance theory, where some part of the remuneration of key management is linked with the performance of the company. In this way the remuneration policy gains importance in an organization. Many studies have been conducted to determine and explain its effects in terms of financial and non-financial characteristics of firms. But still no general characteristics have been identified which can acceptably explain the effects of management remuneration policy.

There is incomplete literature and an on-going debate on the issue of remuneration of key management. There is wider gap specifically in the case of growing economies like Pakistan, because most of the research done is based on the data from developed economies.

The purpose of this study is to empirically investigate the contribution of management remuneration towards financial performance, of firms in Pakistan, by testing the-pay-for-performance theory. It is important to conduct this study in Pakistan because it is a growing economy and there are a lot of differences in the situation faced by firms in developed and developing economies. Effects of various factors on financial performance can be firm specific. This study will contribute to the limited literature on effects of management remuneration in Pakistan. The aim of this study is to

empirically verify the pay-for-performance theory and find out whether it does bring out an increase in company's profits and those of its shareholders. Financial profitability measures for resource utilization and shareholder wealth are considered in the study for testing the theory.

Literature Review

In developing countries the employment level contributes greatly to the economic growth. More employment means higher productivity and better income which leads to a better life style. For employment of resources new and innovative projects have to be undertaken, industries need to be established, infrastructure has to be built and since all this requires a lot of capital it cannot be done by government alone. Private sector needs to play a supportive and sometimes leading role to establish the economy by investing in new projects (Kalirajan & Singh, 2009).

Starting new projects requires a substantial amount of resources, whether it is land, labour or capital employment of all required finances. These finances can either be generated internally (retained earnings) or hired from outside sources (loans and bonds). The decision of selection of the source of finance is based on the cost associated with them and the capital structure of firm. These costs can be monetary or non-monetary. In case of internally generated finances, it is said that these have the highest opportunity cost (Lewellen & Lewellen, 2005) for the firm because retainment of profits can effect shareholder trust, because it would otherwise have been distributed as dividend. Dividend announcements have a significant impact on share prices

(Akbar & Baig, 2010). As far as external borrowings are concerned they are considered to be the cheapest source of financing because of the tax benefits. But they do still have certain costs like interest payments and it is widely accepted that the cost of external funds is directly proportional to the amount of these funds also while borrowing the capital structure policy of the firm has to be kept in mind.

Another important factor which influences the generation of funds is the financial position of the corporation (Havemann & Webster, 1999). Firstly, to invest through retained earnings the corporation must generate enough profit that can satisfy its owners and fulfil the investment demands. Secondly, creditors like to invest in profitable corporations and projects (Amidu & Hinson, 2006), they tend to invest in corporations that can, to some extent, ensure the payment of their liability.

Financial performance of the company is measured in terms of growth and profitability (Krauter & De Sousa, 2009) i.e. optimization of shareholders' wealth while respecting the interests of the stakeholders (Cassidy, 2003). According to agency theory there is always a conflict among shareholders and management and the basis of conflict is simply the distribution of finances (Bohren, Josefsen & Steen 2009). The pay-for-performance theory is mostly applied to reduce this gap of interests (Simerly, Li & Bass, 2000). The theory is based on the philosophy that the association between key management remuneration and company performance helps to align the

goals of shareholders and management, and extrinsically motivates the management to enhance their performance in a positive way (Jenning, 2009). The performance of the company, to a great extent, depends on the efficiency and effectiveness of the investment decisions, evaluation of strategies and controlling the activities so that the ultimate goals are reached. All of which are the duties of the management of the company (Othman, Ponirin & Ghani, 2009) (Collier, 2004). So, the level of the performance of the company is in alignment with the performance of its managers.

The performance of management is dependent upon multiple factors like, goal definition (Marketing Innovators, 2005), agency contract terms (Allan & Yang, 2004) (Barros & Nunes, 2007), political involvement (Cao, Lemmon, Pan, & Tian, 2009) and remuneration etc. The views and findings of scholars are almost in unanimous agreement about, the positive role of goal and contract terms, and negative influence of political appointments and promotions, in the performance of the company. However, in case of remuneration's effects on performance, conflicting results are found. Some researchers did not find any link between the two (Shamsul Nahar, 2006) (Othman, Ponirin & Ghani, 2009), some found a positive association (Firth et al, 1999 cited in Othman, Ponirin & Ghani, 2009) (D'Art & Turner, 2004) (Krauter & De Sousa, 2009) (Abdul Rahman & Hayati, 2005), and a research carried out in 2007 found that increase in remuneration led to the in efficiency of company (cited by Othman, Ponirin & Ghani, 2009).

While most of the above mentioned studies were conducted in developed countries, the subject is still under-researched for developing economies (Othman, Ponirin & Ghani, 2009). A study has been done in Pakistan by Yasser, Entebang, & Abu Mansur (2011) on the impact of corporate governance on corporate profitability; in their research the scholars have studied the role of board of directors as a part of corporate governance. They have analysed the role of board composition and its size on profitability. The researchers have found evidence that these variables play a significant role in the financial profitability of the corporation. But what exactly motivates these directors to work better has not been analysed. The focus of this study is to empirically test and find any possible association between the remuneration of directors and the financial performance of a firm.

Remuneration is composed of following factors all of which contribute significantly towards motivation, loyalty of the manager and ultimately the performance (Edvinsson & Joachim, 2005). Fixed or base pay: It is in cash and is paid regardless of the performance. This part of remuneration is based on the qualification and experience of the manager (Yik, Lee & Ng, 2002) and also on the size of the corporation. However, companies with higher pay scales attract exceptionally talented employees that positively influence the company's performance (Lee, Lev & Yeo, 2005).

Variable pay: this part of remuneration changes from time to time depending on the company's financial performance and economy of country. It has following components;

Benefits: This is the non-cash part of the remuneration like medical, transportation and residence etc. This part is designed to attract and retain the exceptionally talented managers (Shamsul Nahar, 2006) and nowadays considered as much necessary as the fixed pay.

Bonuses: These benefits are given as reward to encourage decision making and monitoring (Marketing Innovators, 2005). This part of remuneration is based on the profit generation of company and the contribution of the people to achieve these profits is rewarded by bonuses (Indjejikian & Nanda, 2002).

Stock options: the goal is to give ownership exposure to the management (Hoi & Robin, 2004) and encourage long-term growth planning (Pass, 2003). Some researchers contradict by saying that ownership given as a bonus does not involve risk on the part of management and thus do not produce the required results (Hoi & Robin, 2004).

Research Methodology

For the construction of data sample, we considered non-financial firms listed in KSE-100 index. The data has been collected from stock exchange, analysis reports and company annual reports for five years period i.e., 2007 to 2011.

Hypotheses

H_0: There is no relationship between directors' remuneration and resource utilization.

H_1: There is a positive relationship between directors' remuneration and resource utilization.

H₀: There is no relationship between directors' remuneration and shareholder wealth.

H₂: There is a positive relationship between directors' remuneration and shareholder wealth.

Model Specifications

The study uses fixed effect model to analyze the influence directors' remuneration on the profits of a

corporation. The model to be estimated can be expressed as:

$$Profitability = \alpha + \beta_1 Remuneration + \varepsilon_i$$

Remuneration: The independent variable is divided into following two components.

Fixed Pay (FP): Total amount of managerial remuneration paid to a director of the firm. As used

by Krauter and De Sousa in 2009 in America.

Variable Pay (VP): The ratio is calculated as variable pay divided by fixed pay. **Profitability:** The

dependant variable is measured using following variables.

Return on Assets (ROA): It is calculated as net income divided by total assets. It is the measure

used for asset utilization of firm.

Return on Equity (ROE): It is calculated as net income divided by common equity. The ratio is

used to measure profitability of the firm in terms of its equity investments, as used by Yasser,

Entebang, & Abu Mansur in 2011 for Pakistani firms. The model used for the estimation of variable

is;

$$ROE = \alpha + \beta_1 VP + \varepsilon_i$$

Earnings per share (EPS): It is calculated as net profit after tax divided by number of shares. It is a proxy for measure the shareholder wealth of the firm. As used by Hoi and Robin in 2004. The equation used estimation of the variable is;

$$EPS = \alpha + \beta_1 VP + \varepsilon_i$$

Sales Growth (SG): The value is obtained by subtracting preceding year's sales from current year's sales and dividing the figure by preceding year's sales. The variable measures the growth in sales of the corporation during the year. It is used to measure company profitability as done by Krauter and De Sousa in 2009 in America. For estimation of these variable following model is used;

$$SG = \alpha + \beta_1 VP + \varepsilon_i$$

Shareholder Return (SHR): It is calculated by adding annual share price and dividend per share of the year. Dividend per share is calculated by dividing dividend paid by number of shares. And annual share price is calculated by averaging the standard daily returns of the firm. This variable is used to measure shareholder return as done by Gregg, Jewell, & Tonks in 2011 for firms of UK. Following model is used to estimate the variable;

$$SHW = \alpha + \beta_1 VP + \varepsilon_i$$

Empirical Analysis

Descriptive Statistics

The descriptive statistics of dependent variables and explanatory variables by using SPSS are reported in Table 1. It shows the average indicators of variable computed from the financial statements.

Table 1: Means, Standard Deviations, and Intercorrelation for ROA, ROE, EPS, SG, SHR and Predictor Variable (N=280)

Variables	M	SD	1	2
ROA	11.92	17.19	0.267	0.07
ROE	22.97	55.93	0.116	0.13*
EPS	20.86	38.79	0.53	0.25**
SG	5.51	61.75	0.18	0.21**
SHR	260.8	515.41	0.08	0.28**
Predictor Variable				
1. Fixed pay	9.42E7	2.58E8	-	0.18*
2. Variable pay	0.52	0.84	0.18*	-

*$p < .05$; **$p < .01$

After the descriptive statistics we found that the mean of ROA is 11.92 and the deviation is 17.91. The average Return on equity is 22.97 and mean of size is 13.7.   In case of EPS, sales growth and shareholder wealth the mean is 20.86, 5.51 and 260.8 and deviation is 38.79, 61.75 and 515.41. The

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measures of independent variable (directors remuneration) variable pay on average paid per unit of income is 0.52 with the standard deviation of   0.84 which shows that the listed firms of Karachi Stock Exchange are on average giving 52% of their fixed income to their key management.

Correlation Matrix

The correlation results are also reported in table 1. Matrix shows the relationship or association between the dependent variables and explanatory variable. The results of correlation matrix are as follows:

The fixed pay is showing positively insignificant results with all variables. Whereas variable pay is positively significant with return on equity with the magnitude of 0.13 means they are directly proportional. Similarly it is positively significant with sales growth, earning per share and shareholder wealth with the magnitude of 0.21, 0.25 and 0.28 this means that if variable pay of directors increases then the resource utilization and shareholder wealth will be increased as the results indicate. Variable pay is showing positively insignificant relation with return on assets. All the insignificant variables are ignored in further analysis.

Fixed effect model Results

Fixed effect model was applied in such a way that the effect of variable pay was tested on all the significant variables separately.

Table 2: Fixed Effect Model Analysis Summary for Variable pay Predicting ROE, EPS, SG, SHR (N=280)

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Independent Variable	Dependant Variable	B	SEB	β	R- Square	F-Statistic
ROE	Variable pay	10.02	5.42	0.152*	0.18	2.8*
	Constant	14.79	5.73			
EPS	Variable pay	11.23	3.71	0.245**	0.25	4.2*
	Constant	15.06	3.92			
SG	Variable pay	15.71	5.95	0.22**	0.21	5.6*
	Constant	-3.23	6.3			
SHR	Variable pay	163.8	48.85	0.27**	0.28	5.4*
	Constant	181.9	51.7			

*$p < .05$; **$p < .01$*

When variable pay was regressed on return on equity the model r-square was .18 and it significantly predicted it, at $F_{(2, 280)} = 2.8$, $p < .05$. The beta weights, presented in table 2, suggest that the increase in variable pay of the firm directors will positively contribute in the return on equity.

For earning per share, variable pay predicted it at $F_{(2, 280)} = 4.2$, $p < .05$ and model r-square was .25. For sales growth variable pay explained 21% of variation. In shareholder wealth due to variable pay 28% variation is predicted. All these results indicate that the management tends to effectively utilise the available resources if some part of their remuneration is associated with the firm's performance. Similarly increase in directors variable pay play a positive role in increasing the efficiency of company profitability.

Conclusion

Many researchers have conducted studies on financial performance of firms and have proposed various theories to explain the variation. But the issue is still under debate. We attempt to answer the following questions: does pay-for-performance boost the financial performance of a firm? Fixed effect model is applied on 70 non-financial companies listed in KSE 100-index of Pakistan. Our results show that pay-for-performance has a major impact to determine the financial performance of firms in Pakistan. This means the firms having high association between financial performance and remuneration of key management tend to utilize their resource more efficiently and effectively. The results are in support of the theory of pay-for-performance if we discuss financial performance in terms of resource utilization. Similarly if we consider financial performance in terms of shareholder wealth, which in most cases is the main concern of shareholders for it can also effect the share prices (Csanad, 2009), there is significant impact of association of remuneration of key management with the performance of the firm. So, we can conclude that pay-for-performance in Pakistan may increase the resource utilization and share holders' wealth in the manner it is supposed to. The results are in line with the previous studies, insignificance of remuneration in estimating return on assets suggests that variable pay does not help improve the asset utilization of firm. If we analyze this in comparison with return on equity, we conclude that utilization of external finances is not effected by the variable pay of directors.

Limitations and Recommendations

This paper contributes to the literature of dynamics of key management remuneration and its effects, where we find significant effect of variable pay of directors on profitability of firms in case of emerging market of Pakistan. There is a need to further analyze with respect to effects and factors that can determine the management remuneration policy. Further researcher may extend the present study by the use of generalized models to examine the behaviour of management remuneration. From the findings of this paper it would also be useful to consider the future research on the determinants of remuneration policy.

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The Impact of Ownership Structure Changes on the Volatility of Market Stock, The Case of Amman Stock Exchange

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Abstract

This research paper looks into the impact of the ownership structure (with its prominent forms: top owners, ownership by nationality, and by the nature of diversity of ownership concentration between individuals and institutions) on the volatility of market equities prices of the companies listed on the Amman Stock Exchange, for the daily period from May 10th, 2012 to August 23rd, 2012. Panel Data Methodology was used. Data of (35) companies, representing a sample of the four major sectors in the Stock Exchange (finance, services, insurance, and industry) were analyzed.

The findings indicated a statistically significant positive relationship for the percentage of top owners' on the volatility of market equities prices at a 5% significant level. They also laid down a statistically significant positive relationship for the percentage of the institutional ownership but at the significant level (10%). The positive impact of high percentage of these two ownerships on stock prices means that when their percentage increases, the volatility of stock prices will also increase. On the other hand, the findings did not determine a statistically significant relationship for the percentage of individuals and foreigners' ownership at any statistically acceptable level against volatility of stock prices.

By and large, these findings are much consistent with the nature of the investors; the individuals, if they are not within the top owners, are usually of small shareholders with few savings. They cannot afford big business transactions and cause speculation in the market, leading to stock prices volatility. Concerning the foreigners, their entrance into the market is heavily based on the medium-to long-term investment after being assured of political stability and firm profitability. Hence, the foreigners are not expected to cause severe volatility in the stock prices, which in turn, is consistent with the results of this study.

1- Introduction

In general, companies encounter challenges and problems which affect the indicators of the company's performance such as decline of sales volume, costs increase, and decline of profitability and the market value of the equities. Reasons may be external, such as market conditions, economic and political affairs, and legislations; or internal, which may include agency problem in the case of a sole ownership and by which the owner/director may make conservative or inappropriate investment decisions in order to keep certain administrative gains in the company. The company may also lack the homogeneity between top owners, or exercise additional control preventing the director in making the right decisions, or some attempts by top owners to secure personal benefits to maximize their wealth away from the small shareholders; all may lead to the deterioration of the company's performance and the decline of its market value.

Consequently, the top owners, or those with concentrated ownership, may be able, and by the virtue of their power granted to them as a result of their larger equities in the company, to exercise certain acts to maximize their wealth at the expense of other shareholders. However, it seems that the ownership structure and concentration of ownership may have a positive impact on the company's performance and market value. The censorship motivated by self determination to maximize income and wealth gets those with high property to do their best and monitor all aspects of the company's activity, limiting the agency problem between the administration and shareholders. This disparity has sparked the researchers' attention to examine the various causes which influence the company's performance leading to increase in it's market value and avoid a poor performance.

Study Problems and Elements:

The problem of the current study is represented in the company's market price which is continuously fluctuated as a result of several variables, including the changes in ownership structure. The

problem of the study is concerned with a number of questions as regards to determining the impact of changes of ownership structure forms on the volatility of market prices of the equities of companies listed in the Amman Stock Exchange. More specifically, do changes of ownership structure have an impact on the daily volatility of the company equities, including the effect on wealth of shareholders?

Significance of the study

This study is of paramount importance since it investigates an important variable in the Jordanian financial market; the ownership structure. Between a point of view, showing the moral impact (positively or negatively) on the change of ownership on the stock prices and another view indicating the absence of such an impact, as shown by previous studies, this study (being the first of its kind in Jordan according to the researcher's knowledge) investigates the impact of the ownership structure (with its prominent forms: top owners, ownership by nationality, and by the nature of diversity of ownership concentration between individuals and institutions) on the volatility of market equities prices of the companies listed on the Amman Stock Exchange.

Study Hypotheses:

Based on the introduction of the study, the following hypotheses were formulated:

- The first hypothesis: there is no statistically significant effect for the change of shareholders ownership of the top owners on the volatility of the market equities prices.

- The second hypothesis: there is no statistically significant effect for the change of shareholders ownership of the individuals on the volatility of the market equities prices.

- The third hypothesis: there is no statistically significant effect for the change of shareholders' citizenship on the volatility of the market equities prices.

- The fourth hypothesis: there is no statistically significant effect for the change of shareholders' ownership citizenship on the volatility of the market equities prices

- The fifth hypothesis: there is no statistically significant effect for the change of ownership structure on price volatility due to daily trading volume of the company's equities.

The rest of this study is arranged as follows: Section 2 presents the theoretical framework. Section 3 shows Literature Review. Section 4 shows data, variables descriptions and the model of the study. Section 5 explains the estimation method. Section 6 discusses the results, and conclusions are stated in section 7.

2- Theoretical Framework

Corporate ownership witnessed tremendous development from family companies to public incorporated companies. This has resulted in the need for the necessary finance to attract new shareholders. These shareholders, eventually, constitute the ownership structure through contrast of ratios owned by any category out of the total value of the company or the total number of equities. If a property has been changed to one shareholder through selling his/her stake or buying another contributor's; therefore, the ownership structure will be altered.

In addition to the need for finance, changes in the ownership structure are caused by other reasons, including: privatization of the public sector, investors seeking to protect and increase their wealth through changing the institutions, and invisible internal growth (Demsetz and Lehn, 1985). Bethel *et al.*(1998) indicated that the fundamental change in the ownership structure will be more pronounced in the companies with poor performance and financial hardship.

Concerning the causes of ownership concentration, investors may rush to concentrate their properties in a single company or a particular sector for several causes: (1) Shared Benefits of Control (2) Private Benefit of Control (3) Legal frameworks which do not protect foreign investors, getting them concentrate their properties (4) Lack of proficiency of financial market, and (5) Work conditions in a highly fluctuated economic environment (Holderness, 2003).

3- A Review of Related Literature

Previous studies have determined different results for the relationship between ownership structure and the performance of companies, including a positive or negative relationship. Others found no effect of the ownership structure or the property concentration on the company value or its performance.

The following is a brief explanation for these three types of previous findings:

A: *Studies determining a positive relationship between property concentration and the company value or performance*

Jensen and Meckling (1976) indicated that increase of administration company concentration gets the goals of external contributors gather with the internal contributor's goals. Wruck (1989) states that the property concentration has a positive impact on the company performance through achieving unordinary benefits of the equities through using censorship rights by top owners, benefiting all contributors. Of the other studies indicating the positive effect are McConnell and Servaes (1990), Barberis*et al*., (1997),Xu and Wang (1997), Shleifer and Vishny (1997), Claessens and Djankov (1999), and Earle *et al*. (2004).

B: *Studies determining a negative relationship between property concentration and the company value or performance*

Foroughi and Fooladi (2011) claim that there is a negative effect of property concentration on company performance, which means that the concentrated ownership grants its owners the chance to gain the companies resources at   the expense of the small shareholders and that their authorities to control administration wrongly in the developing markets. Moreover, Jiang (2004) determines that the cause of the negative effect of property concentration on the company's performance is the top owners' control in the company decision that generates both financial and operating risks. Januszewski*et al*.(2002) states that large ownership has negative impacts on the company performance owing to no permission to censor the administration. Zeitun (2009) maintains that ownership criterion has a negative effect on the company performance because the concentration of institution ownership, causing deficiency in and companies bad production performance.

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C: *Studies determining no relationship between property concentration and the company value or performance*

There are some studies determining no relationship between property concentrations and the company value or performance and claiming that the performance is much linked with other factors such as liquidity, investment chances, economic environment and prevailing legislation. They also state that the relationship between concentration properties and companies value: is a complicated concept (Holderness, 2003). Nezdara (2009) mentions that in spite of intensive studies in this particular area in recent decades, the agreement on the relationship between concentration of ownership and performance is not so clear. Of other studies indicating the same result are Demsetz and Lehn (1985) and Pinteris (2002), McConnell and Servaes (1990), Short and Keasey (1999), Demsetz and Villalonga (2001), Chen *et al*. (2003), Tran (2005) and Zeitun (2009).

On the whole, the difference of the results reached by the studies involved is expected; the applied studies vary due to the nature of the financial markets addressed by the studies. This involves different sample sizes, years of study, states, and the different industry sectors involved. Indeed, there are other reasons leading to conflicting results of the studies. In detail, there are some studies testing one or more aspects of performance metrics such as accounting performance, market value of the company, equities volatility, and share market returns. Others examined one component of ownership structures only such as the effect of property of organization board members, company director's property, or the family property on the company performance (Cho, 1998). Accordingly, one researcher states the risk for generalizing the findings of the studies in all financial markets.

Of this study's features, is the examination of the effect of changes in the ownership structure on the fluctuating stock price. In addition, it has collected a large number of companies' daily data which are continuously trading in the stock market in order to give a broad knowledge of the impact of the change in the ownership structure on the volatility of companies' equities prices. This is due to the fact that the daily changes of the ownership structure are not retained in the records of stock but posted on the website of the Amman Stock Exchange (www.ase.gov.jo) for only 24 hours until the market closes on the

following day, when the data of the new owners is modified.

This study also provides a new addition to the existing applied literature on the impact of ownership structure on volatility of companies' equities prices. It examines the effect, coaching with the sectional data for 73-day period for 35 companies with a sum of 2555 views by using Pooled Cross Sectional Analysis. This methodology conflicts with the many studies investigating the impact of ownership structure on volatility of companies' equities prices through monthly, seasonal, or yearly data. The daily data are expected to provide more concise information. Besides, Pooled Cross Sectional Analysis excels the sectional data and temporal series data. It has more numbers of views and large degrees of freedom. Thus, the evaluation is more efficient. Further, the model parameters can reflect the behavioral changes among the companies and allow the moving behavior in the analysis (Asteriou, 2006)

4– Study of variables, data, and models

First: *the study of data and resources*

The study population consists of the companies listed on the Amman Stock Exchange experiencing equities trading for a period of 240 days and more during 2011. These mounted to 35 companies and are categorized as follows:

- Services: 23 companies

- Industry: 5 companies

- Banks: 6 companies

- Insurance: one company

The study sample is representative to all sectors of the companies listed on the Amman Stock Exchange. The primary data were driven from the website of the Amman Stock Exchange (www.ase.gov.jo). All in all, the duration of the study was from 10 May 2012 until 23 August 2012. The daily data include trading volume, closing price, and the market value of each company in addition to the names of the top owners (who own 1% or more of the company's equities) as well as the percentage owned by each.

Second: *study of variables and the model*

*The independent variable***: (***ownership structure***)**

This variable is defined as the concentration percentage and the nature of the shareholders in the company, and is expressed by the following standards:

A. Percentage of concentration of ownership of top owners: defined as the percentage owned by any shareholder owning 1% of the company's equities or more.

B. Percentage of ownership concentration between domestic and foreign ownership: the percentage of domestic ownership is defined as a percentage owned by Jordanian shareholders out of the company's total equities, whereas the percentage of foreign ownership is defined as a percentage owned by those who do not have Jordanian citizenship out of the total equities of the company.

C. Percentage of concentration of ownership   of individuals: defined as the percentage owned by natural persons out of the total equities of the company

D. Percentage of concentration of ownership for institutions: defined as the percentage owned by private or public institutions out of the total equities of the company, whether local or foreign.

*The dependent variable***:**

Volatility in the equity prices is defined as the dispersion of daily share prices away from their averages. Volatility in the equity prices is measured as the standard deviation according to the following equation:

$$\delta_p = \sqrt{\frac{1}{N} \sum_{i=1}^{n} (p_i - \bar{p})^2}$$

where $\bar{p}$ indicates the daily data of the closing equities prices; p_i indicates the prices average; and N indicates the number of trading days in the stock market.

*The controlling variables***:**

These are added to the model to isolate the relationship between ownership structure and the volatility of stock prices, namely:

1 - The size of the company which is measured by the number of subscribed equities multiplied by the market price per share, and this also represents the market value of the company.

2 – Trading volume which is measured by the number of equities multiplied by the market price per share.

Thirdly: *the study model*

Based on   the above, the following model will be used to examine the effect of the independent variable (ownership structure) and controlling variables (company size and trading volume) on the dependent variable (Volatility in the equity prices):

$(VOLATILITY)_{it} = a_0 + a_1 (SIZE)_{it} + a_2 (VOLUME)_{it} + a_3 (OWN)_{it}$ (1)

where (VOLATILITY) refers to the volatility in equity prices; (SIZE) refers to company volume; (VOLUME) refers to the trading volume; (OWN) refers to ownership structure;

(a_0, a_1, a_2, and a_3) refer to the parameters of the model to be estimated; (i) refers to the company; and (t) refers to time.

5– Estimation Method

This study uses the method of Panel Data; this will be iterated for a number (n) equal to 35 companies listed in Amman Stock Exchange. These companies represent a sample of the four major sectors in the stock market, banking, services, insurance, and the industrial sector.

The study data were collected from the website of the Amman Stock Exchange manually, from 10 May 2012 to 23 August 2012; in a daily sample (T) including 73 trading days. The dependent variable (y) will be represented as (y_{it}) where i=1,…..,n company and t=1,…..,T time period. Their probabilistic distribution is random and depends on the number of observations and the external variables x_{kit}, $(k = 1,..., K)$ in addition to   the number of parameters (Green, 2000 and Asteriou, 2006). Equation (1) will be estimated using two models:

A. Fixed Effect Model

$$y_{it} = \beta_0 + \sum_{j=2}^{n} \mu_j D_{jit} + \sum_{k=1}^{K} \beta_k x_{kit} + \varepsilon_{it} \qquad (2)$$

where $D_{jit} = 1$, ($j=i$) and equals 0 otherwise, ε_{it} has a mean of zero and a fixed variance, and β_k parameters are fixed for all companies. Yet, the difference in between is the difference of Constant Term, which addresses the privacy of the company. This means, however, that the model allows the existence of fixed section for each company. This method of estimation is termed Least Squares Dummy Variable because it allows the difference of intercept of each company to contain dummy variables determining its privacy as stated in equation (2). It can be expressed by matrices as follows:

$$Y_{it} = D\mu + X\beta' + u$$

B. Random effect Model

It is supposed that the difference among companies is random by nature.

$$y_{it} = \beta_0 + \sum_{k=1}^{K} \beta_k x_{kit} + \varepsilon_{it}, \quad \varepsilon_{it} = v_i + u_{it} \qquad (3)$$

Error component consists of v_i the random difference between companies, and u_{it} represents a random error term. The average of these components is zero, and their variance is fixed. The covariance between and within components is zero. β_k parameters are fixed for all companies. The difference between the companies is random in the error term, $\beta_0 + v_i$.

But, what is the difference between the two models? The difference depends on the fixed section difference for each company showing its privacy as it is in a fixed effect model. Yet, in the random effect model, the difference is in the random error. Usually, when applying the panel data, data of variables must be balanced (i.e. data of all companies and all variables are complete). It is expected that the fixed effect

model provides better results in this case. When they are not balanced, the random effect model would be used. However, the best way to choose the model best suited for the analysis, based on Hausman (1978), is by using Hausman test; where the random effect is consistent and efficient when H_0 and inconsistent when H_1(the fixed effect is consistent) (Sawaie, 2012).

Panel data in this study are balanced and composed, as described previously, of data from a sample of 35 companies listed on the Amman Stock Exchange. These companies represent a sample of the four major sectors constituting the Stock Exchange; banking, services, insurance and industry. Following data collection, the variable of (company volume) was found constant to all companies of the study sample. So, it was dropped from the model. Accordingly, inclusion of this variable will add nothing to interpret the results.

6– Empirical Results

First: the ownership structure represented by the contribution of top owners and shareholders

The ownership structure models were measured using the fixed effect and random effect of the ownership structure equation from the viewpoint of the top owners, as shown in Table (1). Hausman test was used to differentiate between them. Values of (χ^2) were(7.3833). Based on this result, the null hypothesis (H_0) was declined at the 5% level of significance, which is represented in accepting random effect, and thus the fixed effect is used. Thence, effects and privacy of each company appear.

Table (1): The results of the top owners' equation using fixed and random effect models

	Fixed Effect		Random Effect	
Intercept	-15.84348	*	-0.292902	
Trade Volume	-0.076456	*	-0.018943	
Ownership Structure (presented by Top Owners)	3.965430	*	0.087236	
The value of (χ^2) for Hausman Test			7.383315	**

*, **, and *** indicates a statistically significant value at 10%, 5% and 1%, respectively.

Based on the results of Hausman test as shown in Table (1), the model has been re-estimated using

the fixed effect only after including an intercept for each of the companies of the study sample. The results of this estimate are shown in Table (2). The results show a significant parameter of ownership structure, represented by the contribution of major shareholders at the 5% significant level. The signal of parameter was positive, indicating that the increased concentration of ownership by a few owners leads to increased volatility in the stock prices of companies. It has also been noted that the increase in trading volume has a positive effect on the share price volatility, but the parameter was not statistically significant.

Table (2): The impact of changes in the structure of the top owners' contribution on the volatility of stock prices

(Based on the fixed effect model)

Trade Volume	0.000336				
Ownership Structure	0.090830	**			
D1	-7.244453	**	D19	-8.509201	**
D2	-7.430874	**	D20	-6.438132	**
D3	-7.633314	**	D21	-6.207820	**
D4	-6.870317	**	D22	-4.933801	**
D5	-5.646723	**	D23	-6.056106	**
D6	-5.216017	**	D24	-7.711813	**
D7	-8.133366	***	D25	-7.121833	**
D8	-8.417635	**	D26	-5.521927	**
D9	-5.363657	**	D27	-6.247822	**
D10	-2.619811	**	D28	-7.461763	**
D11	-4.585475	***	D29	-7.117245	**
D12	-2.945703	**	D30	-5.587326	**
D13	-3.937137	**	D31	-7.519138	**
D14	-8.035030	**	D32	-7.221478	**
D15	-6.378127	**	D33	-8.738794	**
D16	-7.386691	**	D34	-6.334017	**
D17	-6.573603	**	D35	-1.947749	**
D18	-5.396507	***			

*, **, and *** indicate a statistically significant value at 10%, 5% and 1%, respectively.

Secondly: the ownership structure represented by the contribution of individuals

By examining the ownership structure model represented by the contribution of individuals, through using the fixed effect and the random effect, Hausman test indicates that values of χ^2 of this test is (4.4953). Based on this result, the null hypothesis (H_0) represented by accepting the random effect could not be rejected. This, in turn, refers to the inability of using the fixed effect. Thus, effects and the privacy of each company of the sample disappear (Table 3).

Table (3): The results of the individuals' equation using fixed and random effect models

	Fixed Effect		Random Effect	
Intercept	-13.09907		-0.010867	
Trade Volume	-0.082499	**	-0.020777	
Ownership Structure (presented by Individuals)	0.832308		0.005959	
The value of (χ^2) for Hausman Test			4.495315	

*, **, and *** indicates a statistically significant value at 10%, 5% and 1%, respectively.

Based on the results of the random effect, as shown in Table (3), no parameters of independent variables are significant at any statistical level. The signal of ownership structure parameter, represented by contribution of individuals was positive, which indicates that the increased concentration of ownership of individual in the stock exchange may lead to increased volatility in the equities prices of companies involved in this study sample. As for trading volume, it has shown a negative impact. In spite of no significant parameter, it may indicate that during certain trading days the increased demand for trading is much due to a decrease in equity prices, which encourages some investors to increase demand.

Thirdly: the ownership structure represented by contribution of foreigners

Table 4 shows the results of applying both the fixed effect and the random effect models for the ownership structure equation represented by the contribution of foreigners. Hausman test indicates rejection of null hypothesis claiming to accept the random effect.

Table (4): The results of the foreigners' equation using fixed and random effect models

	Fixed Effect		Random Effect	
Intercept	4.076217		0.223181	
Trade Volume	-0.082560	**	-0.019371	
Ownership Structure (presented by Foreigners)	-0.221770		-0.009803	
The value of (χ^2) for Hausman Test			5.036432	*

*, **, and *** indicates a statistically significant value at 10%, 5% and 1%, respectively.

Based on this result, the equation of ownership structure represented by the contribution of foreigners using the fixed effect has been re-estimated after including a fixed intercept for each company in order to show their privacy. Table 5 shows the results of this estimate.

The result of the fixed effect did not maintain a significant parameter of the ownership structure represented by the contribution of foreigners and trading volume at any statistically acceptable level. The signal of ownership structure parameter was negative. Although this parameter is not significant, this effect suggests that the impact of the increased concentration of foreigners' ownership leads to low volatility in the equities prices of companies. The foreign ownership is usually stable and low-volatized, which in turn will be reflected on lowering the equities price volatility.

Table (5): The impact of changes in the structure of the foreigners' contribution on the volatility of stock prices

(Based on the fixed effect model)

Trade Volume	0.000373				
Ownership Structure	-0.000259		D18	-0.470133	
D1	1.776448		D19	0.651350	*
D2	0.135288	*	D20	-0.058381	
D3	0.526228		D21	0.386427	*
D4	0.852857	*	D22	0.387367	*
D5	0.892131		D23	-0.135605	
D6	7.267004		D24	-0.126946	*

D7	-0.924331	**	D25	0.010691	*
D8	0.707920		D26	-0.244788	*
D9	-0.281602		D27	0.032518	*
D10	-0.034098	*	D28	0.301193	*
D11	-0.513198		D29	0.144372	
D12	-0.035863	*	D30	2.217424	*
D13	0.132074		D31	-0.025262	
D14	1.546790		D32	-0.023242	*
D15	0.366338	*	D33	-0.067540	
D16	0.126384		D34	-0.052776	*
D17	0.093670	*	D35	-0.112788	

*, **, and *** indicates a statistically significant value at 10%, 5% and 1%, respectively.

Fourthly: *the ownership structure represented by the contribution of institutions*

The results of the effect of the ownership structure represented by the contribution of institutions on the volatility of equity prices are listed in Table 6. Both models of fixed and random effects of ownership structure equation represented by foreigners' contribution were applied. The results of Hausman test have shown that it is impossible to reject the null hypothesis which includes the random effect. Thus, the alternative hypothesis, including the use of the fixed effect was not accepted.

Based on the results of random effect, the coefficient of trading volume shows a positive sign at a statistically significant level of 1%. This indicates that the increase in trading volume has an effective impact on the equities price volatility. Regarding the ownership structure parameter represented by the contribution of institutions, it was statistically significant at the level of 10%, and this suggests that increasing concentration of ownership in favor of institutions leads to increase volatility in the equities prices of companies. This effect may explain the way these institutions handle by (do you mean "are managed" rather than "handled by"??); these companies buy and sell shares in large quantities which may explain the volatility in equities prices as a result of these operations.

Table (6): The results of the institutions' equation using fixed and random effect models

	Fixed		Random	

	Effect		Effect	
Intercept	0.311899		20.99518	**
Trade Volume	-0.050974		0.127172	***
Ownership Structure (presented by Institutions)	0.005042		1.382421	*
The value of (χ^2) for Hausman Test			1.535466	

*, **, and *** indicates a statistically significant value at 10%, 5% and 1%, respectively.

7– Conclusion

In this study, a number of hypotheses, which examined the impact of ownership structure components including ownership percentages of top owners, individuals, foreigners and of institutions on the volatility of equities prices, were tested. The results showed no statistically significant relationship to any of these components for ownership structure at level of (1%). Yet, the results showed a statistically significant relationship to percentage of top owners at the significant level (5%) and a statistically significant relationship to percentage of foreigners at the significant level 10%. The test results did not show the presence of a statistically significant relationship to ownership of individuals and foreigners at any statistically acceptable level on equities prices volatility.

These findings are consistent with the findings of the (Ezazi*et al.*, 2011) on the impact of top owners. Ezazi indicates the existence of negative impacts of the ownership of individuals on volatility of equities prices. Yet, his study did not find a significant impact of foreigners' and institutions ownership on the volatility of the equities prices. The positive impact of concentration percentage of top owners on the volatility of equities prices means that the increase of top owners concentration leads to more volatility in equities prices, which mainly resulted from the presence of the positive impact for the concentration of ownership of both individuals and institutions. Despite the fact that none of these components of the ownership structure showed an impact at a statistically acceptable level on the volatility of equities prices, the sum of these effects together leads the concentration of top owners to have a significant impact on the volatility of stock prices.

Ultimately, these results, in theory, are acceptable and compatible with the nature of the investors. The top owners have, by default, concentrated ownership, which means that the deals they make are large

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in order to achieve the supposed profit. Consequently, their deals promote volatility of equities prices.

Concerning individuals, if they are not in the top owners' category, they are usually small shareholders with small and limited savings. Their hope is to see an improvement to the performance of the company so as its share value increases, which will ultimately maximize their wealth, and being usually large in numbers with little shares, they cannot hold conventions and cause speculation in the market leading to volatility of equities prices.

As regards to foreigners, they look at market political stability and investment opportunities with profitability. Indeed, their entry into the market is heavily based on the medium to long-term investment after being assured of the political stability and profitability of the company. Their exit from the market is usually attributed to the political unrest or gaining promising investment opportunities in other areas, whether in the same market or elsewhere.

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